



















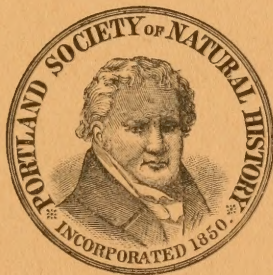


VOL. III,

1914.

PART 1.

PROCEEDINGS  
OF THE  
PORTLAND SOCIETY  
OF  
NATURAL HISTORY.



ORGANIZED 1843.

---

CONTENTS.

---

I. WILLIAM CONVERSE KENDALL: *The Fishes of Maine.*

---

PORTLAND, MAINE, U. S. A.

PRINTED FOR THE SOCIETY.

1914.





628  
M2 K33  
Fishes

116

## An Annotated Catalogue of the Fishes of Maine.

By WILLIAM CONVERSE KENDALL,

Scientific Assistant U. S. Bureau of Fisheries.

As scientific assistant of the federal government institution, now known as the Bureau of Fisheries, Department of Commerce, the writer has spent a considerable portion of the last twenty years in studying the habits and geographical distribution of the marine and fresh-water fishes of Maine. The work has several times taken him by water the entire length of the coast, and he has visited many of the bays and fishing centers. On the fresh waters, all of the larger and most important lakes and rivers, as well as many of the minor waters, have been explored. The information thus acquired affords the basis for the present catalogue.

The coast of the State is very irregular and deeply indented. Hundreds of islands dot its bays, coastal waters and estuaries, and outlying shoals or "banks" form important fishing grounds for various commercial fishes. Maine has an area of about 32,000 square miles, of which probably about 65% is woodland and there is a large area that may be said to be under water. There are four large river basins and numerous smaller drainages, and about 2,000 lakes from 100 acres to 120 square miles in area.

The waters of Maine are poor in species compared with the southern States. In the present catalogue there are listed 149 species, some of which are of uncertain occurrence.

The fish fauna of the salt water is mainly boreal. There are some periodical migratory species that have their relation-



ship in the south, and a few occasional stragglers from southward, and accidental visitors. From the appended lists it may be seen that there are 98 species that may be considered almost or quite strictly marine. Of these but 17 are at present of any commercial value. Of the 149 species, also, only 35 can be called strictly fresh-water forms, and some of these are so on account of physical restrictions. About fourteen or fifteen of these are food fishes of more or less importance and some of them highly esteemed game fishes. There are sixteen species of anadromous, katadromous, and those commonly occurring in either fresh or salt water.

Maine was one of the first States to undertake fish culture. In 1867, the first State Fish Commission was appointed, since which time various species have been propagated and distributed. Since 1872, the U. S. Fish Commission has co-operated in the work, and vast numbers of young fish have been planted in the waters of the State. Many depleted lakes and streams have been restocked with trout. Landlocked salmon have been introduced into many waters not before containing them, where they have become acclimated and increased in numbers. A number of species foreign to the State have also been introduced, but without pronounced success, so far as authentically known, except in the case of the black bass, which in suitable waters has proved a valuable food and game fish, and in others has become somewhat of a nuisance. By the aid of both well-meaning and mischievous persons, the pickerel has been spread over a wide area to which it was not indigenous. Smelts seem to have been a success in almost every instance of their introduction, in some lakes having wonderfully increased in numbers and size.

Although the transplanting of excellent food and game fishes has been highly successful, the wisdom of indiscriminate introduction of exotic forms into waters whose native species is all that can be asked for in size, food and game



qualities is questionable. To the writer it seems that if the native fish have become scarce, if possible, it alone should be propagated for such waters and the native stock thus restored. If non-indigenous species are introduced, especially if the native form is already on the decrease and the foreign fish particularly hardy and vigorous, the alien will doubtless thrive at the expense of the native, if the waters are suited to the introduced form. Even if the native stock is not waning, the introduction of another struggler for existence is liable to upset the balance of nature that previously existed. There is no dearth of lakes in Maine, which are as well adapted to lake salmon as the few that are famed for their superb trout. If possible, these few trout lakes should be maintained and the others replenished with salmon and non-native trout.

Aside from pike perch, black bass, carp and goldfish, all of the introduced forms belong to the salmon family which are represented by a number of species from Europe and the west.

The following lists respectively include the foreign and American species not native to Maine that have been introduced. Only one, the small-mouth black bass (*Micropterus dolomieu*) has become sufficiently established to be admitted as a Maine fish. In the following lists the asterisk (\*) indicates those which have been reported from one or more localities since their introduction.

FOREIGN.	AMERICAN.
1. Carp ( <i>Cyprinus carpio</i> )*	1. Whitefish ( <i>Coregonus clupea-</i> <i>formis</i> )*
2. Goldfish ( <i>Carassius auratus</i> )*	2. Chinook salmon ( <i>Oncorhyn-</i> <i>chus tshawytscha</i> )*
3. Vendace ( <i>Leucichthys albula</i> )	3. Silver salmon ( <i>Oncorhynchus</i> <i>kisutch</i> )
4. Scotch sea trout ( <i>Salmo trut-</i> <i>ta</i> )*	4. Humpback salmon ( <i>Oncor-</i> <i>hynchus gorbuscha</i> )
5. Brown trout ( <i>Salmo fario</i> )*	5. Steelhead trout ( <i>Salmo gaird-</i> <i>neri</i> )
6. Loch leven trout ( <i>Salmo ler-</i> <i>ensis</i> )	6. Rainbow trout ( <i>Salmo iri-</i> <i>deus</i> )*
7. Swiss lake trout ( <i>Salmo lema-</i> <i>nus</i> )	7. Grayling ( <i>Thymallus monta-</i> <i>nus</i> )
	8. Small-mouth black bass ( <i>Mi-</i> <i>cropterus dolomieu</i> )*
	9. Large-mouth black bass ( <i>Mi-</i> <i>cropterus salmoides</i> )
	10. Pike perch ( <i>Stizostedion vit-</i> <i>reum</i> )



## HISTORICAL.

The following catalogue and bibliography of the fishes of Maine aim to include at least one record of each species known to occur in the waters of the State. By the term record as here used is meant a published notice that a fish has been collected in Maine, bearing the technical name of the species, definite locality, and date of publication. No record is included unless well authenticated, and no species\* is included without authentic record, barring a few necessary exceptions, *i. e.*: 1. When the present writer has personal knowledge that the species occurs in Maine, though there is no complete published record, in which case such data as are available are accepted. 2. When an authentically labeled fish occurs in a collection and has been examined by the present writer. 3. When the writer has received assurance from a reliable person that he has collected or observed the fish.

The bibliography and other records and references which follow the catalogue, are arranged chronologically. The year of publication or reference is given first, followed by the name of the authority and title of record and name of publications in which it occurs, or explanation of reference, usually with list of species recorded, with identification of all names by the writer.

In the catalogue the technical name is given first, followed in small capitals by such common names as are in local use. References to localities are then given, followed by the name of the author or collector, with date, in parentheses. Example,

\*Some of the older lists, as Holmes', contain one or two doubtful, though possible, occurrences. Such are the toadfish (*Opsanus tau*) and weakfish (*Cynoscion regalis*). These are retained for the sake of keeping this list complete.

Eastport (Bean, 1880), means that the fish was collected in Eastport and that the record of it is made by Bean and will be found under 1880 in the chronological list of records; the letter "a" after date indicates a second paper by the author in the same year, and "b" indicates a third. Casco Bay (Kendall coll., 1896), indicates that the species was collected by Kendall in Casco Bay in 1896, no published record of which has been made. "Coll," means in every instance collection of, or observed by. Portland (U. S. N. M., 1873), shows that the species was collected at Portland in 1873 and the record is found in the catalogues of the Department of Fishes of the U. S. National Museum, and explanation of this fact can be found in the list of records and references under the year 1873 in the chronological list of records. Me. F. C. Report means Maine Fish Commission Report, and U. S. F. C. refers to the United States Fish Commission.\*

Many more or less definite references to the same locality have been omitted for the sake of conciseness. Others occurring in sportmen's journals covering a period of many years, often lacking some element of definiteness, have been omitted because value received would hardly be commensurate with the time and labor entailed in compiling them.

Because a species of fish has been recorded from Maine waters is not absolute proof that it occurs there, and that it has never been recorded is not positive evidence that it does not occur; in fact, there are doubtless other fishes than those herein recorded occurring in the waters of the Maine coast, especially in deep water, which are rarely caught, and then only by accident, by trawl, or deep-water fishermen. Occasionally some of these forms die and are washed up on the shore or are found floating at the surface. Such was the case with *Macrourus bairdi* at Eastport. It would be expected that such fishes as are known to occur on the Nova

\*Further explanations will be found at the end of the catalogue.



Scotia shore, especially west of Halifax, and in Massachusetts Bay or Cape Cod Bay, should now and then appear on the coast of Maine.

The first publication, known to the writer, containing a list of technical names\* of Maine fishes is "The History of the State of Maine from its First Discovery, A. D. 1602 to the Separation, A. D. 1820, inclusive", by William D. Williamson, in two volumes, published by Glazier, Masters & Co., at Hallowell, in 1832. Section V of Vol. I comprises an account of the "Native Animals, Beasts, Birds, Fishes, Vermes, Reptiles and Insects". The chapter on fishes begins on page 150 and extends to and includes page 164.

The author says: "In our salt and fresh waters are found about sixty species of fish, and generally they are abundant in numbers. Some are warm blooded, some amphibious, some without bones, and some without scales—differently classed by different ichthyologists."

In the list of fishes are included several mammals, as the whale, blackfish, porpoise and seal.

In Section II of the same volume, describing the "Face of the Country, Seacoast, Islands, Rivers, Mountains and Soils" some fishes are alluded to by their common names. These references and those of the list, the technical names of which are given in footnotes, contain 59 nominal forms, representing 56 good species.

With the exception of the above mentioned list and a few references to or descriptions of one or more species from Maine the earliest work on Maine Fishes is that of Dr. Ezekiel Holmes in 1862, which also is the only considerable catalogue of Maine fishes. Dr. Holmes' work consists of a history of the fisheries, a classification of the fishes, in which

\*Josselyn's (1672 and 1674) accounts of fishes, though in the form of lists, are archaic productions, with non-technical names. The species are often questionable, and frequently entirely unidentifiable.

Though Sullivan (1795) presents several scattered notes on fishes, no list is given.

he claims to present the systems of Willoughby and Ray, Dale, Artedi, Linnæus, Cuvier, Lacépède, Agassiz, Girard and Gill, with a history and explanation of each, a glossary of the terms used in ichthyology and the characteristics of the orders. Under "Girard's system" is presented a partial list of the fishes of Maine. In part 2 under "Gill's system" is given another partial list, in which the generic and specific names are sometimes changed and a few names added.

Following this is a descriptive catalogue of a part of the fishes of Maine, in which some of those enumerated in the preceding lists are not given and an additional species described. The first list comprises the names of 67 species; the second, 76 species, and the last list 34 species. Of these, after a reduction to a common denominator, 73 valid species remain, 68 of which are undoubtedly found in Maine waters. The others very probably may be found occasionally, straying from the southward.

In the parallel columns following the reference to Dr. Holmes in the bibliography are given the names of the fishes enumerated in the three lists of Dr. Holmes and the identification of the species. The names of those not known to occur in Maine are indicated with an asterisk. The fresh-water cusk or burbot was erroneously called *Ophidium marginatum*, which does not occur in Maine and is a salt-water fish. I am unable to ascertain to what fish he refers as *Fario tsuppitch*, since this is evidently a synonym of *Oncorhynchus kisutch* or silver salmon of the Pacific Coast, unless it be *S. sebago*.



CATALOGUE.\*

MYXINIDÆ. THE HAGFISHES.

1. **Myxine glutinosa** *Linnaeus*. HAGFISH; "SLIME EEL"; "BORER".

*Range*.—North Atlantic on both coasts; south, in deep water, to latitude of Delaware at least.

MAINE.—Along the whole coast on muddy offshore grounds; off Casco Bay (Kendall coll., 1888, and Kendall, 1908); Eastport (Kendall coll., 1893); White Head Mud (Norton coll.).

PETROMYZONIDÆ. THE LAMPREYS.

2. **Petromyzon marinus** *Linnaeus*. LAMPREY; "LAMPER EEL"; SUCKER; GREAT SEA LAMPREY.

*Range*.—Atlantic coasts of Europe and North America; south to Florida.

MAINE.—Piscataquis (Williamson, 1832); Maine (Holmes, 1862, and Kendall, 1908); Eastport (U. S. N. M., 1872); Presumpscot River (Me. F. C. Report, 1875); Bucksport (U. S. N. M., 1878); Kennebec (Me. F. C. Report, 1880); Casco Bay (Lee, 1885); brook in Brunswick (Bowdoin College coll., 1900 [?]); Small Point, Casco Bay (Kendall coll., 1896); Stillwater River (in Maine State University, Merrill coll., 1898); Penobscot River (Kendall coll., 1902); East Branch Penobscot (Atkins coll., 1903); Penobscot River and Bay (Evermann, 1903).

\*Explanation of abbreviations used not elsewhere explained will be found at the end of the catalogue.

## CHLAMYDOSELACHIDÆ. THE FRILLED SHARKS.

3. **Chlamydoselachus anguineus** *Garman*.  
FRILLED SHARK; "SEA SERPENT".

*Range*.—Deep waters of the open sea.

MAINE.—New Harbor [?] (Hanna, 1883); Pemaquid [?]  
(Goode & Bean, 1896).

## CARCHARINIDÆ. THE REQUIEM SHARKS.

4. **Carcharinus obscurus** (*Le Sueur*). DUSKY  
SHARK.

*Range*.—Middle Atlantic, frequent on coast of North  
America.

MAINE.—Near Cod Ledge, summer of 1864 (Willard, 1895).

## VULPECULIDÆ. THE THRESHER SHARKS.

5. **Vulpecula marina** *Valmont*. THRESHER SHARK;  
THRESHER; "SWINGLETAIL"; "SWINGLETAIL SHARK";  
"SWIVELTAIL"; "SWIVELTAIL SHARK".

*Range*.—All warm seas, especially Mediterranean and  
Atlantic; frequently taken on Pacific coast.

MAINE.—In our bays, one was caught eastward of Matine-  
cus, in 1811, which was supposed to weigh more than 500  
pounds (Williamson, 1832); Eastport (Kendall coll., 1893);  
off Monhegan (Kendall coll., 1893 and 1895*b*); Maine (Ken-  
dall, 1908).

## CARCHARIDÆ. THE SAND SHARKS.

6. **Carcharias taurus** *Rafinesque*. SAND SHARK;  
"SHOVELNOSE SHARK"; "BLUE DOG"; LITTLE MACKEREL  
SHARK.

*Range*.—Maine to Cape Hatteras.

MAINE.—Maine (Gill, 1873, and Kendall, 1908); coast

of Maine (Goode, 1884); Casco Bay (Lee, 1885); Casco Bay at Small Point (Kendall coll., 1896).

ISURIDÆ. THE MACKEREL SHARKS.

7. **Isurus punctatus** (Storer). "MACKEREL SHARK."

*Range*.—Maine to West Indies.

MAINE.—Casco Bay (U. S. N. M., 1873, and Kendall, 1908); off Seguin (P. S. N. H. coll., 1908).

8. **Isurus nasus** (Bonnaterre). "MACKEREL SHARK"; "BLUE SHARK".

*Range*.—North Atlantic and North Pacific.

MAINE.—Off Monhegan (Storer, 1867, and Kendall coll., 1895*b*); Portland (Bicknell, 1868); Casco Bay (Bowdoin College coll., 1900 [?]); off Cape Elizabeth (Willard, 1895, and Norton coll., 1905 and 1906); Maine (Kendall, 1908).

9. **Carcharodon carcharias** *Linneus*. GREAT WHITE SHARK. MAN-EATER; MAN-EATER SHARK.

*Range*.—All temperate and tropical seas.

MAINE.—Eastport (Goode, 1884, and Kendall, 1908).

CETORHINIDÆ. THE BASKING SHARKS.

10. **Cetorhinus maximus** (Gunner). "BASKING SHARK"; "BONE SHARK".

*Range*.—Arctic Seas, southward to Portugal, Virginia and California.

MAINE.—Maine (Holmes, 1862, and Kendall, 1908); off Cape Elizabeth (Storer, 1867, and Goode & Bean, 1896); Eastport (Verrill, 1871 and 1872, and Goode, 1884).

SQUALIDÆ. THE DOGFISHES.

11. **Squalus acanthias** *Linneus*. "DOGFISH."

*Range*.—Gulf of St. Lawrence, south to Cuba.



MAINE.—Maine "Salt water" (Williamson, 1832, Goode, 1884, Me. S. and S. F. Report, 1907, and Kendall, 1908); Eastport (U. S. N. M., 1872, and Bean, 1880); Casco Bay (Lee, 1885); Small Point, Casco Bay (Kendall coll., 1896); Passamaquoddy Bay (Moore, 1897); Matinicus, Isle au Haut, Stockton Springs, Searsport, Gott's Island, Mt. Desert Rock, Sandy Point, Verona (Evermann, 1904); Saco Bay.

#### SCYMNORHINIDÆ. THE NURSE SHARKS.

12. **Sommiosus microcephalus** *Schneider*. "NURSE SHARK"; SLEEPER SHARK.

*Range*.—Arctic Seas south to Cape Cod, Oregon and France.

MAINE.—Eighty miles east of Portland (Wood, 1846, and Storer, 1848); Maine (Holmes, 1862, and Kendall, 1908); eighty miles east of Portland (Storer, 1867); Eastport (U. S. N. M., 1875); Portland (Goode & Bean, 1896).

#### RAIIDÆ. THE SKATES.

13. **Raia erinacea** *Mitchill*. "SKATE"; LITTLE SKATE; COMMON SKATE.

*Range*.—Virginia northward.

MAINE.—Eastport (U. S. N. M., 1872); Casco Bay (Lee, 1885); Casco Bay at Small Point (Kendall coll., 1896); Wolf's Neck, Freeport (Pettengill coll., 1900); New Meadows River (Bowdoin College coll., 1900 [1890]); Maine (Kendall, 1908).

14. **Raia diaphanes** *Mitchill*. BIG SKATE; SKATE; SPOTTED SKATE.

*Range*.—New York and northward.

MAINE.—Eastport (U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873); Portland (Goode & Bean, 1879); Small Point (Kendall coll., 1896); Maine (Kendall, 1908).

15. ***Raia radiata* Donovan.** SPINY SKATE.

*Range*.—North Atlantic, America and Europe.

MAINE.—Casco Bay [?] (P. S. N. H.); Casco Bay (Lee, 1885); Maine (Kendall, 1908).

16. ***Raia stabuliforis* Garman.** "BARNDOR SKATE."

*Range*.—South to Florida.

MAINE.—Maine (Williamson, 1832); Eastport [?] (U. S. N. M., 1872); Casco Bay at Small Point (Kendall coll., 1896); Maine (Kendall, 1908).

NARCACIONTIDÆ. THE ELECTRIC RAYS.

17. ***Narcacion nobilianus* (Bonaparte).** TORPEDO;  
"CRAMP FISH"; "NUMB FISH".

*Range*.—Maine to Cuba.

MAINE.—Off Seguin Island, Wood Island, Bald Head and Casco Bay (Kendall coll., 1896, and Smith & Kendall, 1898); Maine (Kendall, 1903a and 1908).

ACIPENSERIDÆ. THE STURGEONS.

18. ***Acipenser sturio* Linnæus.** "STURGEON."

*Range*.—Europe and North America; St. Lawrence River to Gulf of Mexico.

MAINE.—Kittery, and Kennebec River (Sullivan, 1795); "Salt water into rivers" (Williamson, 1832); Kennebec and Portsmouth (Eaton, 1851); Maine (Holmes, 1862); Kennebec River (Storer, 1863); Kennebec and Androscoggin Rivers (Atkins, 1887); Casco Bay at Small Point (Kendall coll., 1896); Cathance River (Kendall coll., 1901); Casco Bay (Lee, 1885); Topsham and Small Point (Goold, 1886); Penobscot River (Kendall coll., 1902); Penobscot River and Bay (Evermann, 1904); Maine (Kendall, 1908).

## SILURIDÆ. THE CATFISHES.

19. **Ameiurus nebulosus** (*Le Sueur*). "HORNPOUT"; BULLHEAD; "JOHNNY"; CATFISH; BULLPOUT.

*Range.* Throughout the Great Lakes and south to Texas and Florida.

MAINE.—Almost all our fresh waters (Williamson, 1832); Maine (Perley, 1852, Storer, 1855, Holmes, 1862, and Jordan & Evermann, 1896); Auburn (U. S. N. M., 1883); Thompson Pond (Bowdoin College coll., 1900 [1883?]); brook in Brunswick (Bowdoin College coll., 1900 [1893?]); Sabattus Pond (Kendall coll., 1880); Boyden, Big and Leweys Lakes, West Branch St. Croix, Tomah Stream and Magurrowock Stream (Kendall, 1894); Taylor Pond and Pushaw Pond (Merrill coll., 1899); Sebago and Little Sebago Lakes and Presumpscot River (Kendall coll., 1898, 1899 and 1900*a*); Cobbosseecontee Lake (Kendall coll., 1899*a*, and Smith, 1901); East Branch of Penobscot River and Bill Fish Brook (Kendall & Gould coll., 1900); Umsaskis, Round and Glasier Lakes (Kendall & Gould coll., 1901); Little Sebago Lake (Kendall coll., 1902); Green Lake and Cross Lake Thoroughfare (Kendall coll., 1903); common (Atkins coll., 1903); Moose and Indian Ponds and Sebacicook River (Bowman coll., 1904); Oquossoc Lake (Kendall coll., 1904); Umbagog Lake (Kendall coll., 1905); Kennebec at Bath (W. H. Rich coll.); Maine (Kendall, 1904 and 1908).

## CATOSTOMIDÆ. THE SUCKERS.

20. **Catostomus catostomus** (*Forster*). "RED SUCKER"; LONGNOSED SUCKER; NORTHERN SUCKER; "RED-SIDED SUCKER".

*Range.* Great Lakes, Labrador to Alaska, and has been recently found in the mountains of West Virginia.

MAINE.—Cupsuptic Lake (B. S. N. H., Putnam coll.



[1866?]); Rangeley Lake (Hitchcock, 1862); Skiff Lake of the Eastern Schoodic Chain of Lakes and upper waters of the Androscoggin River (Adams, 1873); Craig's Pond (Merrill coll., 1898 and 1899); Glasier Lake and Cross Lake Thoroughfare (Kendall & Gould coll., 1901, and Kendall, 1903*a*); Square Lake (Kendall coll., 1903); Craig's Pond (Atkins coll., 1903); Umbagog Lake (Kendall & Goldsborough coll., 1905); Maine (Kendall, 1908).

21. **Catostomus commersonii** (*Lacépède*).  
"SUCKER"; BLACK SUCKER; WHITE SUCKER; COMMON SUCKER; "BARVEL".

*Range*.—Quebec and the Great Lakes to Montana, Colorado, and southward to Missouri and Georgia and west to Kansas.

MAINE.—Piscataquis River (Peck, 1804); fresh water (Williamson, 1832); Maine (Holmes, 1862); Moosehead Lake (B. S. N. H., Davidson coll.); Grand Lake Stream (U. S. N. M., 1877); Crooked River (Atkins, 1878); Bear River (Bowdoin College coll., 1900 [1885?]); Freeport (Kendall & Smith, 1894, and Kendall coll., 1898, 1899, 1900, 1901*b*, 1902, 1903 and 1904); Boyden, Pennamaquan and Meddybemps Lakes, Dennys River, Grand Lake Stream, Big and Leweys Lakes, St. Croix and tributaries (Kendall, 1894); Chickawaka Lake and outlet (Kendall coll., 1895*a*); Grand Lakes (Rathbun & Wakeham, 1897); Sebago and Little Sebago Lakes and Presumpscot River (Kendall coll., 1898, 1899 and 1900*a*); Thomas Pond (Kendall coll., 1899); Lake Auburn and Androscoggin River (Merrill coll., 1899); Cobbosseecontee Lake (Smith, 1901); Cobbosseecontee and Maranacook Lakes (Kendall coll., 1899*a*); Sebago Lake (B. S. N. H., Putnam coll. [1865?], and Smith, 1900); Matagamon and Matagamonsis Lakes, East Branch of Penobscot River and Rangeley Lakes (Kendall & Gould coll., 1900); Bill Fish

Brook, Telos and Chamberlain Lakes, Smith Brook, Eagle, Churchill and Round Lakes, St. Johns River between Cross Rip and Rankin Rapids, Glasier Lake and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); South Fork of East Branch of Royals River (Kendall coll., 1901*b* and 1904); Wissataquoik Deadwater, Lunkasoos Lake, Great Spring Brook, Sand Bank Brook and Wissataquoik River (Kendall & Gould coll., 1902); Presumpscot River (B. S. N. H., Putnam coll. [1866?], and Kendall coll., 1902); Maine (Kendall, 1903*a*); brook tributary of Thomas Pond, Presumpscot River, outlet Chaffin Pond, Simpson Brook, East Branch of Royals River, Great Brook, Mann Brook, Winkemphaugh Brook, First Debsconeag Lake, Cross Lake and Thoroughfare, Square Lake and Thoroughfare, and Rangeley Stream (Kendall coll., 1903); everywhere (Atkins coll., 1903); Eagle Lakes and brook tributary to Casco Bay (Evermann, 1904); Moose and Indian Ponds, and Sebasticook River (Bowman coll., 1904); Oquossoc Lake (Kendall coll., 1904); Cambridge River (B. S. N. H., Putnam coll., 1866); Umbagog Lake (Kendall coll., 1905); Maine (Kendall, 1908).

22. **Erimyzon oblongus** (*Mitchill*). CHUB SUCKER: "POT BELLY"; "NUB-NOSE"; "ROACH".

*Range*.—Great Lakes region, the Dakotas south to Indian Territory and Virginia, represented from Virginia to Texas by typical *Erimyzon sucetta*.

MAINE.—Maine (Holmes, 1862); Sebago and Little Sebago Lakes, and old canal at head of Presumpscot River (Kendall coll., 1898); Pettengill Pond (Kendall coll., 1899); tributary of Presumpscot River (Kendall coll., 1899); Thomas Pond (Kendall coll., 1899); mouth of Songo River (Kendall coll., 1900*a*); Harrison (Atkins coll., 1903); Maine (Kendall, 1908).

CYPRINIDÆ. THE CARPS AND MINNOWS.

23. **Chrosomus erythrogaster** *Rafinesque*. "GOLD-SIDE"; RED-BELLIED MINNOW.

*Range*.—Recorded from no place between northern New York and Maine; it occurs south to Alabama and west to Nebraska and Dakota in one or more of its sub-species.

MAINE.—Auburn (U. S. N. M., 1883, and Merrill coll., 1899); Freeport (Kendall & Smith, 1894, and Kendall coll., 1898, 1899 and 1900); Cobbosseecontee Lake (Kendall coll., 1899*a*); Bill Fish Brook and Cross Lake Thoroughfare (Kendall & Gould coll., 1901, and Kendall, 1903*a*); Cross Lake Thoroughfare (Kendall coll., 1903); Bangor (Lee coll., 1903); Maine (Kendall, 1908).

24. **Pimephales anuli** *Kendall*. BLUNT-NOSE MINNOW; RING'S MINNOW.

*Range*.—Thus far known only from Maine.

MAINE.—Cross Lake Thoroughfare (Kendall & Gould coll., 1901, Kendall, 1903*a*, and Kendall coll., 1903); Lun-kasos Lake (Kendall & Gould coll., 1902, and Kendall, 1903*a*); Salmon Lake (Kendall coll., 1903); Maine (Kendall, 1908).

25. **Semotilus bullaris** *Rafinesque*. "CHUB"; "DACE"; "SILVER CHUB".

*Range*.—Although one of the commonest species in New England, has not a very wide range. Found mostly east of the Alleghanies as far south as the James River.

MAINE.—Maine (Williamson, 1832, Putnam & Pickering, 1865, and Pickering, 1865); Rangeley Lakes (Hitchcock, 1862); Grand Lake Stream (Adams, 1873, and U. S. N. M., 1877); Auburn (U. S. N. M., 1883); Thompson Pond (Bowdoin College coll., 1900 [1883?]); Umbagog Lake and



Rapid River (Kendall coll., 1883); Bear River (Bowdoin College coll., 1900 [1885?]); Freeport (Kendall & Smith, 1894, Kendall & Gould coll., 1900, and Kendall coll., 1898, 1899, 1901*b*, 1902 and 1903); Boyden, Dennys and Penamagan Rivers, Grand Lake Stream and West Branch St. Croix River (Kendall, 1894); Sebago and Little Sebago Lakes, Songo and Presumpscot Rivers (Kendall coll., 1898, 1899 and 1900*a*); Pettengill and Panther Ponds, and Cobbosseecontee Lake (Kendall coll., 1899*a*); Cobbosseecontee Lake (Smith, 1901); Androscoggin River and Lake Auburn (Merrill coll., 1899); Rangeley Lake, Auburn Lake, Ship Pond Stream, Bill Fish Brook, and Matagamon and Matagamonsis Lakes (Kendall & Gould coll., 1900); Presumpscot River (Kendall coll., 1901*a*, 1902 and 1903); Ambajejus Falls, Debsconeag Lakes, Pokwokamus Deadwater, East Branch of Penobscot River, Matagamon, Matagamonsis, Webster, Telos, Chamberlain, Eagle, Churchill, Umsaskis and Beau Lakes, and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Moosehead Lake, Wissataquoik Deadwater, East Branch and Bowlin Pond (Kendall & Gould coll., 1902); Debsconeag Lake (Smith, 1903); Presumpscot River, outlet of Chaffin Pond, East Branch and South Fork of East Branch of Royals River, Mann Brook, Green Lake, Floods Pond, First Debsconeag Lake, Cross Lake, Oquossoc Lake and Rangeley Stream (Kendall coll., 1903); East Branch and South Fork of East Branch of Royals River, Oquossoc Lake and Floods Pond (Kendall coll., 1904); everywhere in Maine (Atkins coll., 1903); Moose and Indian Ponds and Sebacook River (Bowman coll., 1904); Umbagog Lake (Kendall coll., 1905); Maine (Kendall, 1904 and 1908).

26. ***Semotilus atromaculatus*** (*Mitchill*). BROOK CHUB; "MUMMI-CHUB".

*Range*.—Presents a gap in its range, being thus recorded by Jordan and Evermann, Maine, western Massachusetts to southern Missouri, Wyoming and Canada. It has also been collected in Colorado. A sub-species is found in the waters of some of the southern states.

MAINE.—Maine (Lindsley, 1844, Atkins coll., 1903 and Kendall, 1904 and 1908); Auburn (U. S. N. M., 1883); Thompson Pond (Bowdoin College coll., 1900 [1883?]); Freeport (Kendall & Smith, 1894, Jordan & Evermann, 1896, and Kendall coll., 1898, 1899, 1900, 1901, 1902 and 1903); Cobbosseecontee Lake (Kendall coll., 1899*a*, and Smith, 1901); Bill Fish Brook and Matagamonsis Lake (Kendall & Gould coll., 1900, and Smith, 1902); First and Second Hurd Ponds, Southard's Pond, Bill Fish Brook, Telos, Chamberlain and Eagle Lakes, Smith Brook, Umsaskis and Round Lakes, and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Sebois River and Bowlin Pond (Kendall & Gould coll., 1902, and Kendall, 1903*a*); South Fork of East Branch and East Branch of Royals River, Simpson Brook, Mann Brook, inlet and outlet of Floods Pond, Second Hurd Pond and Cross Lake Thoroughfare (Kendall coll., 1903); South Fork of East Branch of Royals River, Floods Pond and Oquossoc Lake (Kendall coll., 1904).

27. ***Leuciscus carletoni*** *Kendall*. CHUB-MINNOW:  
CARLETON'S CHUB-MINNOW.

*Range*.—Known only from Maine.

MAINE.—Bill Fish Brook (Kendall & Gould coll., 1900, and Smith, 1902); Bill Fish Brook, Webster Lake, Smith Brook, Telos Lake, Southard's Pond, and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Cross Lake Thoroughfare (Kendall, 1903*a*, and Kendall coll., 1903); Bangor (Lee coll., 1903); Maine (Kendall, 1904 and 1908).

28. **Phoxinus neogaeus** (*Cope*). BRONZE MINNOW.

*Range*.—Exhibits a wide hiatus in its range, previous to its discovery in Maine and New Brunswick, being known only from a few specimens from Livingston County, Michigan; Baraboo River, Wisconsin; White River, Arkansas; and the Black Hills of South Dakota.

MAINE.—Bill Fish Brook and Matagamonsis Lake (Kendall & Gould coll., 1900, and Smith, 1902); Bill Fish Brook, Matagamonsis and Webster Lakes, Southard's Pond, Smith Brook and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Lunkasoos Lake (Kendall & Gould coll., 1902, and Kendall, 1902*b*); Cross Lake Thoroughfare (Kendall coll., 1903); Cambridge River (Kendall coll., 1905); Maine (Kendall, 1904 and 1908).

29. **Abramis crysoleucas** (*Mitchill*). SHINER; "BOG SHINER"; "HERRING"; GOLDEN SHINER; "FRESH-WATER HERRING"; ROACH.

*Range*.—Nova Scotia to Dakota, Florida and Texas.

MAINE.—Maine (Williamson, 1832, Holmes, 1862, and Kendall, 1904 and 1908); Auburn (U. S. N. M., 1883); Pennamquan and Leweys Lakes, West Branch St. Croix and St. Croix Rivers, and Magurrowock Stream (Kendall, 1894); Chickawaka Lake and outlet (Kendall coll., 1895*a*); Auburn and Cobbosseecontee Lakes (Merrill coll., 1899); Sebago and Little Sebago Lakes (Kendall coll., 1898 and 1899); Thomas, Chaffin and Pettengill Ponds and Cobbosseecontee Lake (Kendall coll., 1899*a*); Cobbosseecontee Lake (Smith, 1901); Bill Fish Brook and Matagamonsis Lake (Kendall & Gould coll., 1900); Bill Fish Brook and Matagamonsis Lake (Kendall & Gould coll., 1900); Bill Fish Brook and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Presumpscot River and Little Sebago Lake (Kendall coll., 1902); Sebois River (Kendall & Gould coll., 1902); Hurd



Pond (Smith, 1903); Cross Lake Thoroughfare (Kendall coll., 1903); Umbagog Lake (Kendall coll., 1905).

30. **Notropis bifrenatus** (*Cope*). BRIDLE MINNOW.

*Range*.—In Maine known only from the Sebago Lake or Presumpscot River basin; is otherwise recorded from Massachusetts to Maryland.

MAINE.—Sebago and Little Sebago Lakes (Kendall coll., 1898); Chaffin Pond and tributary of Rattlesnake Pond (Kendall coll., 1899); mouth of Songo River (Kendall coll., 1900); Sebago and Little Sebago Lakes (Kendall, 1903*a*); Maine (Kendall, 1908).

31. **Notropis kendalli** *Evermann & Cockerell*. KENDALL'S MINNOW.

*Range*.—

MAINE.—Maine (Kendall, 1908); Hay Brook and Bill Fish Brook (Kendall & Gould coll., 1900, Smith, 1902, and Kendall, 1903*a*); Smith Brook and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Cross Lake Thoroughfare (Kendall coll., 1903, and Evermann & Cockerell, 1909).

32. **Notropis cornutus** (*Mitchill*). "REDFIN"; "SHINER"; "BUCK FISH".

*Range*.—Common over the entire region east of the Rocky Mountains excepting the South Atlantic States and Texas.

MAINE.—Maine (Holmes, 1862, Putnam & Pickering, 1865, and Kendall, 1904 and 1908); Freeport (Kendall & Smith, 1894, and Kendall coll., 1898, 1899 and 1900); Boyden and Pennamaquan Lakes, Dennys River, Grand Lake Stream, West Branch St. Croix and St. Croix Rivers (Kendall, 1894); Chickawaka Lake (Kendall coll., 1895*a*); outlet of Auburn Lake and Harlow Brook (Merrill coll., 1899); Sebago and Little Sebago Lakes and Presumpscot River (Kendall coll.,

1898, 1899 and 1900*a*); Pettengill Pond (Kendall coll., 1899); Cobbosseecontee Lake and tributaries, and Maranacook Lake (Kendall coll., 1899*a*); Rangeley and Auburn Lakes, East Branch of Penobscot River and Matagamonsis Lake (Kendall & Gould coll., 1900); First and Second Hurd Ponds, Debsconeag Lakes, Webster and Telos Lakes, Smith Brook, Eagle, Umsaskis, Round, Glasier and Beau Lakes, and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Little Sebago Lake (Kendall coll., 1902); East Branch and Bowlin Pond (Kendall & Gould coll., 1902); outlet Chaffin Pond, Mann Brook, Second Hurd Pond, Cross Lake Thoroughfare, Goddard Brook and Square Lake (Kendall coll., 1903); common (Atkins coll., 1903); South Fork of East Branch of Royals River, Floods Pond and Oquossoc Lake (Kendall coll., 1904); Umbagog Lake (Kendall coll., 1905, and Adams, 1873).

33. ***Rhinichthys atronasus*** (*Mitchill*). "ROCK SHINER"; BLACKNOSE DACE; "POT BELLY"; BROOK MINNOW.

*Range*.—New Brunswick to Minnesota, Virginia and northern Alabama.

MAINE.—Maine (Adams, 1873, and Kendall, 1904 and 1908); Parmacheenee Lake (B. S. N. H., Snow & Whittier coll.); Sebago Lake (B. S. N. H., Putnam coll. [1865?]); Auburn (U. S. N. M., 1883); brook in Brunswick (Bowdoin College coll., 1900 [1893?]); Dennys River and Grand Lake Stream (Kendall, 1894); Freeport (Kendall & Smith, 1894, and Kendall coll., 1898, 1899, 1900, 1902, 1903 and 1904); Chickawaka Lake (Kendall coll., 1895*a*); Bear River (Bowdoin College coll., 1900 [1885?]); tributary of Presumpscot River, tributary of Panther Pond and tributary of Cobbosseecontee Lake (Kendall coll., 1899*a*); Lake Auburn outlet, and Stillwater and Penobscot Rivers (Merrill coll.,

1899); East Branch of Penobscot and Matagamonsis Lake (Kendall & Gould coll., 1900); inlet Hurd Pond, Telos and Chamberlain Lakes, and St. Johns River (Kendall & Gould coll., 1901); Sand Bank Brook (Kendall & Gould coll., 1902); outlet Chaffin Pond, South Fork of East Branch of Royals River, Mann Brook, Rainbow Lake and Cross Lake Thoroughfare (Kendall coll., 1903); Rainbow Lake (Garland coll., 1903, and Evermann, 1905); common (Atkins coll., 1903); Dixmont (Lee coll., 1903); Cambridge River (Kendall coll., 1905).

34. **Conesius plumbeus** (*Agassiz*). GRAY CHUB-MINNOW; "DACE"; "DUSKY CHUB".

*Range*.—New Brunswick to Lake Superior.

MAINE.—Metallac Brook and Richardson Lake (B. S. N. H., Putnam coll. [1866?]); Freeport (Kendall & Smith, 1894, and Kendall coll., 1898, 1899, 1900, 1901*b*, 1902, 1903 and 1904); Varnum Pond (Merrill coll., 1898 and 1899); Presumpscot River (Kendall coll., 1899); Sebago Lake (Kendall coll., 1908); Telos, Chamberlain, Churchill, Round and Beau Lakes, and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Moosehead and Lunkasoo Lakes (Kendall & Gould coll., 1902); Wild River and Square Lake (Kendall 1903*a*); northern Maine (Smith, 1903); Square Lake and Cross Lake, and Cross Lake Thoroughfare (Kendall coll., 1903); Oquossoc Lake (Kendall coll., 1904); Umbagog Lake (Kendall coll., 1905); Maine (Kendall, 1904 and 1908)

#### ANGUILLIDÆ. THE EELS.

35. **Anguilla rostrata** (*LeSueur*). "EEL"; COMMON EEL; "SILVER EEL".

*Range*.—Salt and fresh water, St. Lawrence River to Gulf of Mexico and West Indies; abundant throughout Mississippi Valley.



MAINE.—Both fresh and salt water (Williamson, 1832); Maine (Holmes, 1862, Putnam & Pickering, 1865, Jordan & Evermann, 1896, and Me. S. and S. F. Report, 1898, 1901, 1905, 1907, 1909, 1911 and 1913); Bucksport (Me. F. C. Report, 1869); Damariscotta (Me. F. C. Report, 1870); Eastport (B. S. N. H., Shurtleff coll.); Casco Bay (U. S. N. M., 1873); Lewey's Lake (Adams, 1873); Grand Lake Stream (U. S. N. M., 1877); Rangeley Lakes (Me. F. C. Report, 1878); Crooked River (Atkins, 1878); Hancock County (Wasson, 1878); Kennebec (Me. F. C. Report, 1880); all along the coast in accessible rivers, Penobscot, Kennebec, Wescongus, Harrington, Donnels, Tunk, Sullivan, Medomak, St. Georges and Piscataqua Rivers, and Casco Bay and tributaries (Atkins, 1887); Casco Bay (Lee, 1885, and Kendall coll., 1892); Western Grand Lake system (Kendall, 1894); Chickawaka Lake (Kendall coll., 1895*a*); Eastport (Bean, 1881, and Kendall coll., 1893); Freeport (Kendall coll., 1898, 1899, 1900 and 1904, Kendall & Gould coll., 1900, Smith, 1900, and Pettengill coll., 1900); Cobbosseecontee Lake (Smith, 1901); East Branch of Penobscot River, Matagamon Lake, Hurd Pond and Pokwokamus Dead-water (Kendall & Gould coll., 1901); Little Sebago Lake (Kendall coll., 1902); Lunkasoos Lake (Kendall & Gould coll., 1902); Freeport, Green Lake, Floods Pond (Kendall coll., 1903); Penobscot River and Bay (Evermann, 1904); common (Atkins coll., 1903); Moose and Indian Ponds, and Sebasticook River (Bowman coll., 1904); Carry Pond (Kendall coll., 1904); brook tributary to Casco Bay (Evermann, 1905); Matinicus Rock (Norton coll., 1903); Maine (Kendall, 1904 and 1908).

#### LEPTOCEPHALIDÆ. THE CONGER EELS.

36. **Leptocephalus conger** (*Linneus*). CONGER EEL.

*Range*.—Common Cape Cod to Brazil, coasts of Europe, Asia and Africa; not in Eastern Pacific.

MAINE.—Cherryfield (Storer, 1845 and 1846, and Wheatland, 1852); Old Orchard (Norton coll., 1906); Maine (Kendall, 1908). Two specimens both of the postlarval or leptocephalus stage.

#### CLUPEIDÆ. THE HERRINGS.

##### 37. *Etrumeus teres* (*DeKay*). ROUND HERRING.

*Range*.—Cape Cod to Gulf of Mexico.

MAINE.—Eastport (Maine newspapers, 1908); Jonesport (Cleveland coll., 1908).

##### 38. *Clupea harengus* *Linnaeus*. HERRING; COMMON HERRING; "ENGLISH HERRING"; "LABRADOR HERRING"; "SARDINE".

*Range*.—Coasts of Europe and North America, occasionally south to Chesapeake Bay at least.

MAINE.—"Along our coast especially at Herring Gut and eastward" (Williamson, 1832); Maine (Holmes, 1862, Me. F. C. Report, 1869, Me. S. and S. F. Report, 1888, 1894, 1898, 1901, 1903, 1905 and 1907, and Kendall, 1908); Eastport (Verrill, 1871 and 1872, U. S. N. M., 1872, and Jordan & Evermann, 1896); Eastport, Lubec, Bluehill, Pembroke, Gott's Island, Boothbay and Georgetown (Boardman & Atkins, 1875); Bucksport (U. S. N. M., 1878); Hancock County (Wasson, 1878); Eastport and Portland (Bean, 1881); St. Croix River (Atkins, 1887); Casco Bay (Lee, 1885, and Kendall coll., 1892); Eastport and Casco Bay (Kendall coll., 1893); Casco Bay at Small Point (Kendall coll., 1896); Passamaquoddy Bay (Moore, 1897); Passamaquoddy Bay (Rathbun and Wakeham, 1897); Freeport (Kendall coll., 1901*b*); Porter's Landing Brook (Kendall coll., 1903); Penobscot River and Bay (Evermann, 1904).

39. **Pomolobus mediocris** (*Mitchill*). HICKORY SHAD; HICKORY JACK.

*Range*.—Maine to Florida.

MAINE.—Mouths of Kenduskeag and other fresh rivers (Williamson, 1832); Maine (Perley, 1852); Maine coast (Goode, 1884); off Portland (Kendall coll., 1895*b*); Casco Bay at Small Point (Kendall coll., 1896); Freeport (Kendall coll., 1900).

40. **Pomolobus pseudobarengus** (*Wilson* [?]). ALEWIFE; "ELWIFE"; "GASPEREAU"; "KYACK"; "SAWBELLY", etc.

*Range*.—Nova Scotia, south to the Carolinas.

MAINE.—Kennebec (Sullivan, 1795); St. Georges River (Eaton, 1851); Maine (Holmes, 1862, Me. F. C. Report, 1869, 1869*a*, 1870, 1870*a*, 1872*a*, 1874*a*, 1878, 1879, 1880, 1882 and 1884, Me. S. and S. F. Report, 1886, 1888, 1891, 1898, 1901, 1903, 1905 and 1907, Kendall, 1908, and Atkins, 1871); Eastern, Kennebec and Sandy Rivers, and East Branch of Penobscot (Forster & Atkins, 1867); Cumberland Mills (Atkins, 1870); Bucksport (U. S. N. M., 1878); Sebastcook, Sandy, East Branch of Penobscot, Dennys, Pennamaquan, Damariscotta, East Machias, Chandlers, Wescongus, Harrington, Tunk, St. Georges, Androscoggin, Saco, Mousam and Piscataqua Rivers and Patten Stream, West Gouldsboro, Mount Desert, and Casco Bay and tributaries (Atkins, 1887); Eastport (U. S. N. M., 1872, and Kendall coll., 1893); Maine (Gill, 1873); Hancock County (Wasson, 1878); Flag Island (Kendall coll., 1892); off Portland and along coast (Kendall coll., 1895*b*); Small Point (Lee, 1885, and Kendall coll., 1896); western tributaries of St. John River and St. Croix River (Rathbun & Wakeham, 1897); Freeport (Kendall coll., 1898, 1899, 1900 and 1904); Freeport (Pettengill coll., 1900); Lower Penobscot River (Kendall coll., 1902);

Alamoosook Lake, vicinity of Bradley, Eastern River, Verona, Bucksport, Castine and Stockton Springs (Evermann, 1904); brook tributary to Casco Bay (Evermann, 1905).

41. **Pomolobus aestivalis** (Mitchill). ALEWIFE; "ELWIFE"; "KYACK"; "BLUEBACK".

*Range*.—Labrador to Florida.

MAINE.—Maine (Williamson, 1832, Holmes, 1862, and Kendall, 1908); Fiddler's Reach (Foster & Atkins, 1869*a*); Eastport (U. S. N. M., 1872); Bucksport (U. S. N. M., 1878); Casco Bay (Lee, 1885); St. Croix River (Atkins, 1887); Flag Island (Kendall coll., 1892); Eastport (Kendall coll., 1893); Dennys River (Kendall, 1894); off Casco Bay and along coast (Kendall coll., 1895*b*); at Small Point (Kendall coll., 1896); Freeport (Kendall coll., 1898, 1899 and 1900); Wolf's Neck, Freeport (Pettengill coll., 1900); Lower Penobscot River (Kendall coll., 1902); Penobscot River and Bay, and Orland Falls (Evermann, 1904).

42. **Alosa sapidissima** (Wilson). "SHAD."

*Range*.—New Brunswick to Florida.

MAINE.—Kennebec (Sullivan, 1795); "In all our rivers until stopped by dams" (Williamson, 1832); Maine (Storer, 1859, Holmes, 1862, Me. F. C. Report, 1869*a*, 1872, 1874, 1880 and 1882, Me. S. and S. F. Report, 1892, 1901, 1903, 1905 and 1907, Atkins, 1871, and Kendall, 1908); St. George River (Eaton, 1851); Kennebec to Augusta, Merry-meeting Bay, Cathance tributary of Kennebec, Sebasticook River, Sandy River, West Branch of Penobscot River and Eastern River (Foster & Atkins, 1869); Eastport (U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873); Hancock County (Wasson, 1878); Portland (Bean, 1881); Kennebec, Penobscot, St. Croix, East Machias, Wescongus, Harrington, Mousam and Piscataqua Rivers (Atkins, 1887); Flag Island



(Kendall coll., 1892); Eastport (Kendall coll., 1893); off coast of Maine (Kendall coll., 1895); Casco Bay (Kendall coll., 1892); Small Point (Kendall coll., 1896); St. Croix (Rathbun & Wakeham, 1897); Freeport (Kendall coll., 1899 and 1900, and Pettengill coll., 1900); Orland River (Merrill coll., 1899); Penobscot, Verona, Bucksport and Winterport (Evermann, 1904).

43. **Breevoortia tyrannus** (*Latrobe*). "POGX";  
MENHADEN.

*Range*.—Nova Scotia to Brazil.

MAINE.—"On our coast up rivers as far as fresh and salt water mix" (Williamson, 1832); Maine (Storer, 1859, Holmes, 1862, Me. F. C. Report, 1869*a* and 1884, Me. S. and S. F. Report, 1888, 1891, 1892, 1894, 1898, 1901, 1903 and 1905, and Kendall, 1908); Fiddler's Reach (Foster & Atkins, 1869*a*); Bluehill Bay, Jonesport, Owl's Head, Schoodic Point, Center Harbor, Isle au Haut, Duck Island, Somes Sound, Patten's and Morgan's Bays, and Sunny and Belfast Bays (Boardman & Atkins, 1875); Passamaquoddy Bay, Castine, Belfast, Brooklin, Cranberry Isles, Sargentville, Matinicus, New Haven, Monhegan Island, Damariscotta, Pemaquid, Wescongus, Boothbay, Bristol, Round Pond, Waldoboro, Pond Island, Portland and Pine Point (Goode, 1879); coast of Maine (Maddocks, 1878); Hancock County (Wasson, 1878); Casco Bay (Lee, 1885); Freeport (Kendall coll., 1892); Casco Bay at Small Point (Kendall coll., 1896); Freeport (Kendall coll., 1898 and 1900 [young], and Pettengill coll., 1900 [young]); Harraseeket River (Smith, 1902); Penobscot River and Bay (Evermann, 1904).

#### ENGRAULIDIDÆ. THE ANCHOVIES.

44. **Anchovia mitchilli** (*Cuvier & Valenciennes*).  
ANCHOVY; WHITEBAIT.

*Range*.—Cape Cod to Texas.

MAINE.—Harraseeket River (Kendall coll., 1907).

SALMONIDÆ. THE SALMONS.

45. **Coregonus quadrilateralis** *Richardson*. ROUND WHITEFISH; "CHIVY"; "CHIVEN".

*Range*.—Lakes of New England and the Great Lakes northwestward to Alaska, as far south as the Yukon River.

MAINE.—Maine (Holmes, 1862, and Kendall, 1904 and 1908); Moosehead Lake (B. S. N. H., Davidson coll. and Denton coll.); Clearwater Pond (Hatch coll., 1890, and Bowdoin College coll., 1900 [1889?]); Farmington (Evermann & Smith, 1896); Moose Pond [?] (U. S. F. C. coll., 1898 [?]); northern Maine and Clearwater Pond (Smith, 1903); Umsaskis Lake and Cross Lake Thoroughfare (Kendall & Gould coll., 1901, and Kendall, 1903*a*); First Debsconeag Lake, and Square and Cross Lake Thoroughfares (Kendall coll., 1903); Industry (Atkins coll., 1903); Eagle Lakes (Evermann, 1905).

46. **Coregonus labradoricus** *Richardson*. "WHITEFISH"; "GIZZARDFISH"; "WHITING"; "POUNDFISH".

*Range*.—Recorded from Winnipeg and Great Lakes region and northeastward.

MAINE.—Eagle Lakes, Saint Francis Lakes and Grand Lake (Perley, 1852); Thoroughfare Grand Lake to Pocumpus (Holmes, 1862, and Kendall, 1894, 1904 and 1908); northern and eastern parts of the State, Fish River region, Moosehead, Schoodic and Grand Lakes, and Pocumpus Thoroughfare (Foster & Atkins, 1869); Nahmakanta Stream (Me. F. C. Report, 1870*a*); Moosehead Lake (Me. F. C. Report, 1875) Grand Lake Stream (U. S. N. M., 1877); Moosehead Lake (U. S. N. M., 1879); Matagamonsis Lake

Thoroughfare (Kendall & Gould coll., 1900); Moosehead and Grand Lakes (Evermann & Smith, 1896); Grand Lakes (Rathbun & Wakeham, 1897); Sebago Lake (Daniels coll., 1900, Kennard coll., 1910, Lord coll., 1910, and Kendall coll., 1910); First Debsconeag, Telos, Umsaskis, Glasier and Beau Lakes, and Cross Lake Thoroughfare (Kendall & Gould coll., 1901, and Kendall, 1903*a*); northern Maine (Smith, 1903); northern lakes (Atkins coll., 1903); Eagle Lakes (Evermann, 1905).

47. ***Coregonus stanleyi* Kendall.** LITTLE WHITE-FISH; STANLEY'S WHITEFISH.

*Range*.—Thus far recognized only from Maine. According to Dr. T. H. Bean, this species occurs in Chateaugay Lake, New York.

MAINE.—Cross Lake Thoroughfare (Kendall & Gould coll., 1901, and Kendall, 1903*a*); northern Maine (Smith, 1903); Square Lake and Cross Lake, and Square Lake and Cross Lake Thoroughfare (Kendall coll., 1903); Eagle Lakes (Kendall, 1904 and 1908, and Evermann, 1905).

48. ***Salmo salar* Linnaeus.** "SALMON"; SEA SALMON.

*Range*.—Labrador to Delaware.

MAINE.—Saco River (Sullivan, 1795); Kennebec River (Mitchill, 1818); "is now or has been caught in Saco, Androscoggin, Kennebec, Penobscot and Machias Rivers" (Williamson, 1832); St. Georges River (Eaton, 1851); one of the affluents of Union River (Girard, 1854); Maine (Me. F. C. Report, 1868, 1869, 1870*a*, 1872, 1872*a*, 1874, 1874*a*, 1875, 1876, 1879, 1880, 1882, 1882*a*, 1883, 1884, 1886, 1888, 1891, 1892, 1894, 1896, 1896*a* and 1899, Storer, 1858, Holmes, 1862, Foster & Atkins, 1868 and 1869, Suckley, 1873; and Kendall, 1904 and 1908); Gott's Island (Atkins, 1870*a*) Eastport (U. S. N. M., 1872, and Kendall coll., 1893);

Maine (Atkins, 1871, 1872 and 1873); Rangeley Lakes (U. S. N. M.); Calais River (U. S. N. M.); St. George, Medomac, Sheepscot, Kennebec, Androscoggin, Royals, Presumpscot, Saco, Mousam and Piscataqua Rivers, and Richmond's Island (Atkins, 1873); Hancock County (Wasson, 1878); Casco Bay (Lee, 1885); Androscoggin, Kennebec, Penobscot, Eastern, Sheepscot, Dennys, St. Croix, East Machias, Wescongus and Piscataqua Rivers, Casco Bay and tributaries (Atkins, 1887); Maine (Me. S. and S. F. Report, 1888, 1903, 1905 and 1907); Dennys River (Kendall, 1894); Casco Bay at Small Point (Kendall coll., 1896); western tributaries of St. John River and St. Croix River (Rathbun & Wakeham, 1897); Penobscot Bay and River, Matinicus and Ragged Island, Cranberry Isles, 20 miles southeast of Matinicus, off Frenchman's Bay, 3 miles off Gouldsboro in 20 fathoms, southeast of Mt. Desert in 35 fathoms (Smith, 1898); East Branch of Penobscot, 4 miles below Matagamon Lake (Kendall & Gould coll., 1900, 1901 and 1902, and Smith, 1902 and 1903); Penobscot River below Bucksport (Kendall coll., 1902); East Branch of Penobscot River, Wissataquoik River, Great Spring Brook, Bowlin Brook and Sebois River (Kendall & Gould coll., 1902); Katahdin Brook and Aroostook River (Kendall coll., 1903); East Branch of Penobscot, Wissataquoik and Sebois Rivers (Smith, 1904); Brooksville, Bucksport, Castine, Hampden, Islesboro, Lincolnville, Ragged Island, Northport, Orland, Orrington, Penobscot, Searsport, South Brewer, Stockton Springs, Prospect, Verona, Winterport and Bangor (Evermann, 1904).

49. **Salmo sebago** *Girard*. FRESH-WATER SALMON; "BLACK SPOT TROUT"; "SALMON TROUT"; "SILVER LAKE TROUT"; "LANDLOCKED SALMON"; "SCHOODIC SALMON".

*Range*.—Peculiar to Maine, New Brunswick and Nova Scotia. A closely related species, *S. ouananiche*, occurs in Quebec waters and is said to be found in Labrador.



MAINE.—Sebago Pond (M., 1832); southern part of State of Maine (Girard, 1853); Sebago Lake (Herbert, 1859, Brackett, 1860, and Putnam & Pickering, 1865); Maine (Holmes, 1862, Me. F. C. Report, 1868, 1869, 1870, 1874*a*, 1875, 1876, 1877, 1878, 1879, 1882*a*, 1883, 1884, 1886, 1888, 1891, 1892, 1894, 1896, 1896*a*, 1898, 1900, 1903, 1905 and 1907, and Kendall, 1904 and 1908); Presumpscot, Crooked and Songo Rivers, Long Pond and Bear Brook, and Grand Lake and Stream (Foster & Atkins, 1868); Cumberland Mills (Atkins, 1870); Grand Lake Stream, Sebago Lake, Reed's Lake, Sebec Lake and Union River (Hamlin, 1873); Grand Lake Stream (U. S. N. M., 1872*a*); Grand Lake and Union River (Adams, 1873); Sebec Lake (U. S. N. M., 1873*a*); St. Croix and Union Rivers, and in the waters of northern Maine generally, Schoodic or Grand Lakes (Hallock, 1873); southern part of the State of Maine, Union River and St. Croix River (Suckley, 1873); Schoodic or Grand Lake waters, Sebec Lake, Ship Pond, Long Pond, Reed's Pond, Sebago Lake and Presumpscot River (Stilwell & Stanley, 1874); Sebago Lake (U. S. N. M., 1875*a*); Sebago Lake, Union River and the St. Croix system, Big Lake, West Musquash, Grand Lake and Stream, Pocumpus, Sysladobsis and Sysladobsissis Lakes and Stream, Scragley Lake and Pleasant Lake (Atkins, 1878); Crooked River (Atkins, 1880); Grand Lake Stream (U. S. N. M., 1877); (Baird, 1880); Sebago, Grand Lakes, Sebec Pond and Schoodic Lake (Bean, 1881); Rangeley Lakes (U. S. N. M., 1880); basins of Presumpscot, Sebec, Penobscot, Union and St. Croix Rivers (Atkins, 1884*a*, 1884*b* and 1884*c*); Pocumpus, Chipedneck and Pleasant Lakes, Grand Lake, West Musquash Lake, Rangeley Lakes and Weed Pond (Atkins, 1884*c*); Schoodic Lake (U. S. N. M., 1884); Grand Lake Stream (Kendall, 1894); Sebago Lake (Jordan & Evermann, 1896, and Kendall coll., 1906 to

1912 incl.); St. Croix system and Grand Lake (Rathbun & Wakeham, 1897); Presumpscot River (Kendall coll., 1898); Sebago Lake, Presumpscot River, Thomas Pond and a tributary of Cobbosseecontee Lake (Kendall coll., 1899*a*); Sebago Lake, Thomas and Panther Ponds, and Presumpscot River (Smith, 1900); Lake Auburn (Merrill coll., 1899); Cobbosseecontee Lake (Smith, 1901); Sebec Lake (Smith, 1902); Songo and Presumpscot Rivers, and Sebago Lake (Kendall coll., 1901*a*); Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Presumpscot River (Kendall coll., 1902 and 1903); Lunkasoo Lake (Kendall & Gould coll., 1902); Sebago Lake, Presumpscot River, Green Lake, Branch Pond, Floods Pond, Square Lake, Cross Lake and Eagle Lake Thoroughfares, Oquossuc Lake, Rangeley and Kennebago Streams (Kendall coll., 1903); many lakes (Atkins coll., 1903); Moose Pond and Sebasticook River (Bowman coll., 1904); Pierce Pond (Kendall coll., 1904); Eagle Lakes (Evermann, 1905); Umbagog Lake (Kendall coll., 1905).

50. **Salvelinus namaycush** (*Walbaum*). "TOGUE"; "LAKE TROUT"; "LAKER"; "SALMON TROUT"; "TOULADI".

*Range*.—Widely distributed, being recorded from Great Lakes, northern New York, New Hampshire and Maine, the head waters of Columbia and Frazer Rivers, streams of Vancouver Island and north to the Arctic Circle.

MAINE.—In all our larger lakes and ponds (Williamson, 1832, and Hamlin, 1853 [?] and 1903); Maine (Perley, 1852, Me. F. C. Report, 1869, 1875, 1878, 1905, 1909, 1911 and 1913, and Kendall, 1904 and 1908); many lakes of Maine, Eagle Lakes at head of Fish River, St. Croix Grand Lake and Tunk Lakes (Holmes, 1862); Thompson's Pond [?] (Putnam, 1866*a*); Grand Lake (Suckley, 1873); Tunk Lakes, Thompson's Pond, Lakes of the Upper Kennebec, Penobscot and St. John Rivers and the St. Croix system, and Wilton

Pond (Foster & Atkins, 1868); Grand Lake Stream (U. S. N. M., 1872*a*); Moosehead and St. Croix (Hallock, 1873); Grand Lake (Adams, 1873, and Kendall, 1894); Phillips Pond (U. S. N. M., 1874*e*); Schoodic Lake (Sargent, 1895); Clearwater Pond (Hatch, 1895); lakes of St. Francis River and St. Croix system (Rathbun & Wakeham, 1897); Hurd Pond, Matagamon Lake, Webster, Telos, Chamberlain, Eagle, Churchill and Beau Lakes (Kendall & Gould coll., 1901); Moosehead Lake (B. S. N. H., Davidson coll., Goode, 1879, and Kendall & Gould coll., 1902); Hurd Pond (Smith, 1903); Debsconeag Lake and Square Lake (Kendall coll., 1903); many lakes (Atkins coll., 1903); West Carry Pond (Kendall coll., 1904); Eagle Lakes (Evermann, 1905).

51. **Salvelinus fontinalis** (*Mitchill*). "TROUT"; "BROOK TROUT"; "SPECKLED TROUT"; "SQUARETAIL"; "REDSPOT".

*Range*.—Occurs northward to Labrador, west to Minnesota and southward in the Alleghenies to the head waters of the Savannah, Chattahoochee, Catawba, and the French Broad.

MAINE.—"Fresh waters, particularly the Androscoggin" (Williamson, 1832); Moosehead Lake (Hamlin, 1856, and Kneeland, 1857); Maine (Storer, 1858, Holmes, 1862, Me. F. C. Report, 1869, 1870*a*, 1875, 1878, 1879, 1880, 1884, 1894, 1896, 1896*a*, 1899, 1900, 1903, 1905, 1907, 1908, 1909, 1911 and 1913, and Kendall, 1904 and 1908); all over the state in gravelly, pure streams, Umbagog system of lakes, Moosehead Lake, Grand Lake Stream, Great Pond, Cobbosseecontee Lake, Silver Lake in Sidney and Manchester Forks (Foster & Atkins, 1868); Grand Lake Stream (Atkins, 1870*a*, and Suckley, 1873); Lake Richardson, Moosehead Lake, Umbagog, Rangeley and other feeders of the Kennebec and Androscoggin Rivers in Maine (Hallock, 1873); Crooked River (Atkins, 1880); Thompson Pond (Bowdoin

College coll., 1900 [1883] ); Schoodic Lakes (U. S. N. M., 1884); Weld Pond (Atkins, 1884*c*); Casco Bay (Lee, 1885); brook in Brunswick (Bowdoin College coll., 1893, and Adams, 1873); Mt. Desert Island (Willard, 1895); Upper St. John and St. Croix system (Rathbun & Wakeham, 1897); Dennys River (Kendall, 1894); Freeport (Kendall coll., 1898, 1899, 1900, 1901*b*, 1902 and 1903); Muddy River (Kendall coll., 1898); tributary of Panther Pond, Thomas Pond and Presumpscot River (Kendall coll., 1900*a*); Cobbosseecontee Lake (Smith, 1901); tributary of Cobbosseecontee Lake (Kendall, 1899*a*); Sebago Lake (Smith, 1900); Rangeley Lake, Kennebago Stream and East Branch of Penobscot (Kendall & Gould coll., 1900); inlet Hurd Pond, inlet Second Debsconeag, Fourth Debsconeag, Daisy Pond, Second Hurd Pond and outlet, Southard's Pond, Rainbow Lake, East Branch of Penobscot below Matagamon dam, Bill Fish Brook, Matagamon, Matagamonsis, Webster Lake and Brook, Chamberlain Lake, Allagash River below Chamberlain Lake, Eagle and Umsaskis Lakes, St. John River, Glasier and Beau Lakes and St. Francis River (Kendall & Gould coll., 1901); Presumpscot River (Kendall coll., 1902); Rainbow Lake (Smith, 1903); Sand Bank Brook, Wissataquoik River, Little and Great Spring Brooks, Little Sebois Stream, Sebois River, Lunkasoos Lake and Bowlin Pond inlet and outlet (Kendall & Gould coll., 1902); Presumpscot River, Thomas Pond, East Branch and South Fork of East Branch of Royals River, Porter's Landing, Carter, Joe True, Hillside and Harvey Brooks, Simpson and High Gulley Brook, Mann Brook, Winkempeugh Brook, Floods Pond, Rainbow Lake, Little Beaver Pond, Daisy Brook, Second Hurd Pond, Square Lake, Square Lake Thoroughfare, Goddard and Little Goddard Brook, Birch Brook, Mud Brook, Eagle Lake and Cross Lake Thoroughfare, Rangeley and Kennebago Streams (Kendall coll., 1903); common (Atkins coll., 1903);



Moose Pond and Sebasticook River (Bowman coll., 1904); Freeport, Rangeley Stream, Oquossoc Lake, Kennebago Stream, Floods Pond, Rainbow Lake and Carry Ponds (Kendall coll., 1904); Eagle Lakes (Evermann, 1905); Umbagog Lake (Kendall coll., 1905); Belgrade Lake (Kendall, 1908); Sebago Lake (Kendall coll., 1911).

52. **Salvelinus aureolus** *Bean*. GOLDEN TROUT; "SILVER TROUT".

*Range*.—Recorded from Sunapee Lake and Dan Hole Pond in New Hampshire, Averill Pond, Vermont, and Floods Pond in Maine. Closely related species occur in Canada and northward to the Arctic Circle, Greenland and in Europe.

MAINE.—Floods Ponds (U. S. F. C. coll., 1894, Jordan & Evermann, 1896, Me. F. C. Report, 1898, Kendall coll., 1903 Evermann, 1905, and Kendall, 1904 and 1908).

53. **Salvelinus oquassa** (*Girard*). "BLUEBACK"; "BLUEBACK TROUT".

*Range*.—So far as known, peculiar to the Rangeley Lakes in Maine (where it is believed to be extinct), although a similar fish of Rainbow Lake, Maine, is provisionally identified in this paper as this species.

MAINE.—Oquossoc Lake (Girard, 1853); Mooselucmaguntic Lake, Kennebago Stream and "Oquossa" Lake (Hitchcock, 1862); Maine (Holmes, 1862, and Me. F. C. Report, 1869, 1874*a*, 1875 and 1878); Rangeley and Mooselucmaguntic Lakes (Foster & Atkins, 1868); Rangeley Lakes (Suckley, 1873, Adams, 1873, Stilwell & Stanley, 1874*a*, U. S. N. M., 1874, and Jordan & Evermann, 1896); Rangeley Lakes (Bowdoin College coll., 1900 [1884], and U. S. N. M., 1884); Rangeley Lake (U. S. N. M., 1873*b*); Kennebago Stream (Kendall & Gould coll., 1900, and Kendall coll., 1904); Rangeley Lakes (Smith, 1902); Rangeley

Stream (Kendall coll., 1903 and 1904); Rangeley Lakes (Atkins coll., 1903); Rainbow Lake (Garland coll., 1903 and 1904, Evermann, 1905, and Kendall, 1908).

#### ARGENTINIDÆ. THE SMELTS.

54. **Osmerus mordax** (*Mitchill*). "SMELT"; "SALT WATER SMELT"; "FRESH WATER SMELT".

*Range*.—New York to Gulf of St. Lawrence; permanent resident of some lakes in Maine and New Hampshire; Lake Champlain and Memphramagog.

MAINE.—"Caught in abundance after March in our rivers" (Williamson, 1832); Maine (Kneeland, 1857, Storer, 1846, 1858 and 1867*a*, Holmes, 1862, Me. F. C. Report, 1868, 1869, 1870, 1879, 1880 and 1896, Me. S. and S. F. Report, 1886, 1888, 1891, 1894, 1897, 1898, 1901, 1903, 1905, 1907 and 1911, and Kendall, 1904 and 1908); St. Georges River (Eaton, 1851); ponds in Harrison and Belgrade (Foster & Atkins, 1868); Eastport (U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873); Industry (U. S. N. M., 1874); Belgrade Mills (U. S. N. M., 1875); Sebago Lake, Union River and the St. Croix systems, Big Lake, West Musquash Lake, Grand Lake and Grand Lake Stream, Pocumpus Lake, Sysladobsis and Sysladobsissis Lakes and Stream, Scraggley Lake and Pleasant Lake (Atkins, 1878); Bucksport (U. S. N. M., 1878); Hancock County (Wasson, 1878); Portland (Bean, 1881); Weld Pond (Atkins, 1884*a*); above Bay Ridge, on Androscoggin River, and Belgrade, Bear Brook, Long Pond, Norway Lake, Upper Dobsey or Sysladobsissis Lake, and rivers and creeks along the coast (Mather, 1885); St. Croix, East Machias, Chandler's, Wescongus, Harrington, Narraguagus, Tunk, Sullivan's, Patten, Penobscot, Bagaduce, Orland, Medomak, St. George's, Damariscotta, Sheepscot, Kennebec, New Meadows, Saco, York and Piscataqua Rivers, and West Bay,

Casco Bay and tributaries, Robinston and Deer Isle (Atkins, 1887); Great Pond (Bowdoin College coll., 1900 [?]); Eastport (Kendall coll., 1893); Grand Lake Stream and Pennamaquan Lake (Kendall, 1894); Meddybemps Lake (Kendall coll., 1910); Passamaquoddy Bay (Rathbun & Wakeham, 1897); North Bridgton (Bowdoin College coll., 1900 [1895]); Small Point, Casco Bay (Lee, 1885, and Kendall coll., 1896); Sebago Lake (Kendall coll., 1898); Little Sebago Lake (Kendall coll., 1898 and 1900*a*); Lake Auburn, Duck Pond, Taylor Pond and Sebago Lake (Smith, 1900); Swan Lake (Merrill coll., 1898 and 1899); Freeport (Kendall coll., 1899 and 1900, and Pettengill coll., 1900); Sebago and Little Sebago Lakes (Smith, 1902); Songo River and Panther Pond (Kendall coll., 1901*a*); Harraseeket River (Kendall coll., 1901*b*); Presumpscot River (B. S. N. H., Putnam coll.); Freeport, Presumpscot River and Little Sebago Lake (Kendall coll., 1902); Sebago Lake, Porter's Landing Brook, High Gully Brook, Green Lake, Mann Brook, Branch Pond, Kenduskeag, Square and Cross Lakes (Kendall coll., 1903); Belgrade (Atkins coll., 1903); Penobscot River and Bay (Evermann, 1904); Floods Pond (Kendall coll., 1904); brooks tributary to Casco Bay, Freeport and Eagle Lakes (Evermann, 1905); Umbagog Lake (Kendall coll., 1905).

55. ***Osmerus spectrum* Cope.** WILTON SMELT.

*Range*.—So far as known peculiar to Wilton or "Wilton" Pond, in Wilton, Maine.

MAINE.—"Wilton" Pond, Kennebec County (Cope, 1870, Jordan & Evermann, 1896, and Kendall, 1908); Industry (U. S. N. M., 1874*b*); Wilton (Atkins coll., 1903, and Kendall, 1908).

56. ***Osmerus abbotii* Cope.** COBBOSSEECONTEE SMELT.

*Range*.—Thus far recognized only from a limited area in Maine.

MAINE.—Cobbosseecontee Lake (Cope, 1870, Jordan & Evermann, 1896, Smith, 1901, Berry coll., 1903, and Kendall, 1908); ponds in Monmouth and Cochnewagan Pond (Foster & Atkins, 1868); Sabattus Pond (Merrill coll., 1898 and 1899); Winthrop (Atkins coll., 1903); Moose Pond and Sebasticook River (Bowman coll., 1904).

57. ***Argentina silus*** (*Ascanius*). ARGENTINE.

*Range*.—Northern Europe; occasionally on our northern coast.

MAINE.—Belfast and Biddeford Pool (Goode & Bean, 1896, and Kendall, 1908); off the coast of Maine (Jordan & Evermann, 1896); off Mt. Desert Rock (Welsh coll., 1912); off Petit Manan Point (Welsh coll., 1913).

ESOCIDÆ. THE PIKES.

58. ***Esox reticulatus*** (*Le Sueur*). "PICKEREL".

*Range*.—Maine to Florida and Louisiana, west to Arkansas.

MAINE.—Kennebec waters, first brought to Penobscot and put in Davis Pond in Eddington, where they have increased surprisingly (Williamson, 1832); Maine (Storer, 1858 and 1867, Holmes, 1862, Foster & Atkins, 1868, Putnam & Pickering, 1865, Me. F. C. Report, 1868 and 1870, and Kendall, 1904 and 1908); Lewey's Lake (Adams, 1873); Umbagog Lake (Kendall coll., 1883 and 1905); Androscoggin River (Kendall coll., 1883); Thompson Pond (Bowdoin College coll., 1900 [1883]); Weld Pond (Atkins, 1884*e*); Umbagog Lake (Kendall coll., 1887); brook in Brunswick (Bowdoin College coll., 1900 [1893]); Grand Lakes (Rathbun & Wakeham, 1897); Boyden Lake, Meadow Brook, Pennamaquan Lake and River, Meddybemps Lake, Dennys River, Grand Lake



Stream, St. Croix River and Magurrowock Stream (Kendall, 1894); Chickawaka Lake and outlet (Kendall coll., 1895*a*); Freeport (Kendall coll., 1898); Sebago and Little Sebago Lakes, Songo and Presumpscot Rivers (Kendall coll., 1898, 1899 and 1900*a*); Cobbosseecontee Lake (Smith, 1901); Rattlesnake and Thomas Ponds, Cobbosseecontee Lake and tributaries, and Maranocook Lake (Kendall coll., 1899*a*); Sebago Lake (Smith, 1900); Thomas Pond (Kendall coll., 1900); Sebec Lake (Kendall & Gould coll., 1900); East Branch of Royals River (Kendall coll., 1901*b*); Little Sebago Lake, East Branch of Royals River, Winkempath Brook and First Debsconeag Lake (Kendall coll., 1903); "common" (Atkins coll., 1903); Moose and Indian Ponds and Sebastiacook River (Bowman coll., 1904); Ambajejus Falls, and First and Second Debsconeag Lakes (Kendall & Gould coll., 1901); Little Sebago Lake (Kendall coll., 1902); Wissataquoik Deadwater (Kendall & Gould coll., 1902); Pierce Pond (Kendall coll., 1904); Umbagog Lake (Kendall coll., 1905).

#### POECILIIDÆ. THE KILLIFISHES.

59. **Fundulus heteroclitus** (*Linnaeus*). MUMMICHOG; "MINNY"; "SALT WATER MINNOW"; "TOMCOD".

*Range*.—Gulf of St. Lawrence to Texas.

MAINE.—Maine (Holmes, 1862, Gill, 1873, Jordan & Evermann, 1896, and Kendall, 1908); Eastport (U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873, and Lee, 1885); ponds near New Meadows (Bowdoin College coll., 1900 [?]); Freeport (Kendall coll., 1892, 1898, 1899, 1900 and 1904, and Pettengill coll., 1900, 1901*b*, 1902 and 1903); Eastport (U. S. N. M., 1892, and Kendall coll., 1893); Penobscot River and Bay (Evermann, 1904); brook tributary to Casco Bay (Evermann, 1905).

60. **Fundulus diaphanus** (*Le Sueur*). "SHORE FISH"; "FRESH WATER MINNOW"; "FLATHEAD".

*Range*.—New Brunswick to North Carolina, west to the Mississippi River.

MAINE.—Androseoggin River at Brunswick (Bowdoin College coll., 1900 [1873]); brook in Brunswick (Bowdoin College coll., 1900 [1893]); Boyden and Pennamaquan Lakes, and Grand Lake Stream (Kendall & Smith, 1894, and Kendall, 1894); Chickawaka Lake (Kendall coll., 1895*a*); Lake Auburn, Craig's Pond, Cobbosseecontee Lake and Stillwater River (Merrill coll., 1898 and 1899); Maranacook Lake in Winthrop (Kendall coll., 1899*a*); Lake Auburn and Matagamonsis Lake (Kendall & Gould coll., 1900); Matagamon Lake and neighboring waters (Smith, 1902); Hurd Pond and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Floods Pond and outlet (Kendall coll., 1902*b* and 1904); Orland (Atkins coll., 1903); Maine (Kendall, 1904 and 1908).

#### BELONIDÆ. THE BILL-FISHES.

61. **Tylosurus marinus** (*Walbaum*). "BILL-FISH"; GAR-FISH; SILVER GAR.

*Range*.—Maine to Texas.

MAINE.—Maine (Williamson, 1832); Wolf's Neck, Freeport (Pettengill coll., 1893 [?], and Kendall, 1908).

#### HEMIRHAMPHIDÆ. THE HALFBEAKS.

62. **Hyporhamphus roberti** (*Cuvier & Valenciennes*). HALFBEAK; "SKIPJACK".

*Range*.—Cape Cod to Gulf of Mexico; also on Pacific coast.

MAINE.—Machias waters (Powers coll., 1913); Casco Bay (Copeland coll., 1913).

## SCOMBERESOCIDÆ. THE NEEDLEFISHES.

63. **Scomberesox saurus** (*Walbaum*). NEEDLE-FISH; "BILL-FISH".

*Range*.—Temperate parts of Atlantic Ocean, especially north of Cape Cod, and France.

MAINE.—Monhegan (Goode & Bean, 1879); Small Point, Casco Bay (Kendall coll., 1896); Old Orchard (Bowdoin College coll., 1900 [1898]); Maine (Kendall, 1908).

## GASTEROSTEIDÆ. THE STICKLEBACKS.

64. **Eucalia inconstans** (*Kirtland*). "BROOK STICKLEBACK".

*Range*.—Aside from one locality in Maine and from New Brunswick, this species has not been recorded east of New York and Montreal. Its former recorded range is from New York to Kansas and northward to the Saskatchewan, south to Central Ohio and Illinois.

MAINE.—Tributary of Cobbosseecontee Lake (Kendall coll., 1899*a*, Smith, 1901, and Kendall, 1903*a* and 1908).

65. **Pungitius pungitius** (*Linneus*). NINE-SPINED STICKLEBACK; "PIN-FISH"; "HORNPOUT".

*Range*.—Undoubtedly one of the most widely distributed of northern species, occurring in both fresh and salt water in the northern part of Europe, and from the Arctic Seas to New York and westward and northward to the Saskatchewan and Alaska.

MAINE.—Kennebec County (Storer, 1837 and 1846); Maine (Holmes, 1862, and Kendall, 1908); Eastport (B. S. N. H., Emerton coll., U. S. N. M., 1872, and Adams, 1873); Casco Bay (Lee, 1885); brook in Brunswick (Bowdoin College coll., 1900 [1890]); Grand Lake Stream (Kendall, 1894); Freeport (Kendall coll., 1898, 1899, 1900,

1901*b*, 1902 and 1903, and Pettengill coll., 1900); Lake Auburn, Bill Fish Brook and Matagamonsis Lake (Kendall & Gould coll., 1900 and 1901); Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Sebois River (Kendall & Gould coll., 1902); Porter's Landing Brook and Cross Lake Thoroughfare (Kendall coll., 1903); Bangor (Lee coll., 1903); brook tributary to Casco Bay (Evermann, 1905); Sebago Lake (Kendall coll., 1908 and 1909).

66. ***Gasterosteus aculeatus* Linnaeus.** STICKLEBACK; "SICKLEBACK"; THREE-SPINED STICKLEBACK; "PIN-FISH"; "HORNPOUT"; "GHOSTER"; "THORNFISH"; "THORNBACK".

*Range*.—Northern Europe; Labrador to New Jersey.

MAINE.—Maine (Williamson, 1832, Holmes, 1862, and Kendall, 1908); Eastport (U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873, and Lee, 1885); tributary of Casco Bay (Bowdoin College coll., 1900 [1877]); Bay of Fundy (Bowdoin College coll., 1900 [1891]); Eastport (Kendall coll., 1893); pond near New Meadows River (Bowdoin College coll., 1900 [?]); off coast of Maine (Kendall, 1895*b*); Rockland (Kendall coll., 1895); Small Point (Kendall coll., 1896); Freeport (Kendall coll., 1898, 1899, 1900, 1902, 1903 and 1904, and Pettengill coll., 1900); High Gully Brook (Kendall coll., 1903); brook tributary to Casco Bay (Evermann, 1905).

67. ***Gasterosteus atkinsii* Bean.** "FRESH WATER STICKLEBACK"; STICKLEBACK.

*Range*.—Maine, New Brunswick, and Quebec.

MAINE.—Grand Lake (Adams, 1873); Grand Lake Stream (Bean, 1879); Schoodic Lakes (Eigenmann, 1886); Maine (Jordan & Evermann, 1896, and Kendall, 1908); Lake Auburn and Cobbosseecontee Lake (Merrill coll., 1898 and



1899); tributary of Cobbosseecontee Lake (Kendall coll., 1899*a*); Bill Fish Brook and Matagamonsis Lake (Kendall & Gould coll., 1900, and Smith, 1902); Bill Fish Brook, Matagamonsis, Webster, Telos, Chamberlain, Eagle, Church-hill, Glasier and Beau Lakes, Allagash River and Cross Lake Thoroughfare (Kendall & Gould coll., 1901); Moosehead Lake (B. S. N. H., Davidson coll., and Kendall & Gould coll., 1902); northern Maine and Grand Lake Stream (Smith, 1903); Floods Pond, Cross Lake Thoroughfare and Salmon Lake (Kendall coll., 1903); Grand Lake Stream and Orland (Atkins coll., 1903); Floods Pond (Kendall coll., 1904).

68. **Gasterosteus bispinosus\*** Walbaum. TWO-SPINED STICKLEBACK.

*Range*.—Newfoundland to New York.

MAINE.—Bay of Fundy (Bowdoin College coll., 1900 [1891]); off Seguin Island (Kendall coll., 1895*b*); creek at Small Point, Casco Bay, and off Monhegan Island (Kendall coll., 1896); off coast of Maine (Jordan & Evermann, 1898*a*); Porter's Landing (Kendall coll., 1898, 1899, 1900 and 1903, and Pettengill coll., 1900); New Meadows River (Bowdoin College coll., 1901); Maine (Kendall, 1903*a*, and Kendall, 1908).

69. **Apeltes quadracus** (Mitchill). FOUR-SPINED STICKLEBACK.

*Range*.—Maine to Virginia.

MAINE.—Eastport (U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873); Chickawaka Lake and outlet (Kendall coll., 1895*a*, and Smith & Kendall, 1898); Maine (Jordan & Evermann, 1896, and Kendall, 1908); Freeport (Kendall coll.,

\*Not of Jordan & Evermann; but *G. biaculeatus* Cuvier & Valenciennes, *G. theutlandi* Putnam, *G. gladunculus* Kendall.

1898, 1899, 1900, 1901*b*, 1902 and 1903); brook tributary to Casco Bay (Evermann, 1905).

SYNGNATHIDÆ. THE PIPEFISHES.

70. **Siphostoma fuscum** (Storer). "PIPEFISH".

*Range*.—Nova Scotia to Virginia.

MAINE.—Casco Bay (U. S. N. M., 1887, Lee, 1885, Bowdoin College coll., 1900 [?], and Kendall coll., 1898 to 1900); Eastport (U. S. F. C. coll., 1890, and Kendall coll., 1893); off coast (Kendall coll., 1895*b*, and Kendall, 1896); Freeport (Kendall coll., 1898, 1899 and 1900, and Pettengill coll., 1900); Scarborough (H. Ellis, in P. S. N. H. coll.); Maine (Kendall, 1908).

ATHERINIDÆ. THE SILVERSIDES.

71. **Menidia menidia notata** (Mitchill). SILVER-SIDE; "BRIT"; "YOUNG SMELT"; "GREEN SMELT"; SAND SMELT; "CAPELIN".

*Range*.—Nova Scotia to Virginia.

MAINE.—Maine (Holmes, 1862, Gill, 1873, and Kendall, 1908); Casco Bay (U. S. N. M., 1873); Orland (Bean, 1881); Casco Bay (Lee, 1885); Casco Bay and Freeport (Kendall coll., 1892, 1898, 1899 and 1900, and Kendall, 1902*a*); Eastport (Kendall coll., 1893).

MUGILIDÆ. THE MULLET.

72. **Mugil Cephalus** *Linnaeus*. "MULLET"; COMMON MULLET; STRIPED MULLET.

*Range*.—Coasts of Southern Europe and Northern Africa; Atlantic coast of America from Cape Cod to Brazil; Pacific coast, Monterey to Chili.

MAINE.—Freeport (Pettengill coll., 1900, and Kendall, 1903<sup>a</sup> and 1908): Harraseeket River (Smith, 1902); Clapboard Island (Ralph H. Norton coll., 1908).

#### AMMODYTIDÆ. THE SAND LAUNCES.

73. ***Ammodytes americanus*** *DeKay*. LANT; SAND LAUNCE; "SAND EEL".

*Range*.—Newfoundland to Cape Hatteras.

MAINE.—Eastport (Kendall coll., 1893); Small Point (Kendall coll., 1896); Casco Bay (Lee, 1885, and Pettengill coll., 1900); Saco Bay (Norton); Harpswell (Kingsley, in P. S. N. H. coll.); Maine (Kendall, 1908).

#### SCOMBRIDÆ. THE MACKERELS.

74. ***Scomber scombrus*** *Linnaeus*. "MACKEREL."

*Range*.—North Atlantic; north to Norway and Labrador, south to Spain and Cape Hatteras.

MAINE.—Off Mount Desert Rock and other places on our coast (Williamson, 1832); Maine (Storer, 1846, 1853 and 1867<sup>a</sup>, Holmes, 1862, Me. F. C. Report, 1869, Me. S. and S. F. Report, 1886, 1891, 1892, 1898, 1901, 1903, 1907, 1909, 1911 and 1913, Goode, Collins & Clark, 1884, and Kendall, 1908); Boone Island Ledge (Atwood, 1865); Eastport (U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873); Hancock County (Wasson, 1878, and Collins & Rathbun, 1887); Flag Island, Casco Bay (Lee, 1885, and Kendall coll., 1892); off Mount Desert, Monhegan, Casco Bay and Boone Island (Kendall coll., 1895<sup>b</sup>); Small Point (Kendall coll., 1896); Casco Bay (Kendall coll., 1899, 1900, 1908 and 1912); Penobscot River and Bay (Evermann, 1904).

75. **Scomber colias** *Gmelin*. CHUB MACKEREL ;  
"HARDHEAD"; "SPANISH MACKEREL".

*Range*.—Atlantic coast, north to England and Maine, and the Mediterranean.

MAINE.—Maine (Holmes, 1862, Jordan & Evermann, 1896, and Kendall, 1908); Cash's Ledge (Atwood, 1865); off Casco Bay (Kendall coll. and Bowdoin College coll., 1900 [1893], and Kendall coll., 1895*b*); Small Point, Casco Bay (Kendall coll., 1896).

76. **Thunnus thynnus** *Linnaeus*. "HORSE MACKEREL"; TUNNY; TUNA.

*Range*.—Pelagic, on all warm coasts and north to Gulf of St. Lawrence and Scandinavia.

MAINE.—Maine (Williamson, 1832, Holmes, 1862, and Kendall, 1908); common on our coast as far east as Penobscot Bay, and Brooklin (Boardman & Atkins, 1875); Mount Desert to Gloucester (Maddocks, 1878); Eastport (Kendall coll., 1893); Passamaquoddy Bay (Moore, 1897).

77. **Sarda sarda** (*Bloch*). "BONITO".

*Range*.—North to England; Newfoundland; San Francisco and Japan.

MAINE.—Harpwell (Bowdoin College coll., 1900 [1890], and Kendall, 1908.).

78. **Scomberomorus maculatus** (*Mitchill*). SPANISH MACKEREL.

*Range*.—Both coasts of North America; north to Cape Ann, south to Brazil.

MAINE.—Maine (Storer, 1853 and 1867*a*, Holmes, 1862, and Kendall, 1908); Monhegan (Goode & Bean, 1879).



79. **Trichiurus lepturus** *Linnaeus*.

*Range*.—Warm seas; chiefly western Atlantic, north to Virginia; occasionally in lower California.

MAINE.—Monhegan (Storer, 1853, and Kendall, 1908).

## XIPHIIDÆ. THE SWORDFISHES.

80. **Xiphias gladius** *Linnaeus*. "SWORDFISH."

*Range*.—Atlantic Ocean, both coasts; Newfoundland Banks and Cape Britton to Cuba; southern Europe; also Pacific.

MAINE.—Off Mount Desert (Williamson, 1832); off Portland (Goode, 1884); off Boone Island, Cod Ledge, off Cape Elizabeth, near Seguin, and off Monhegan (Willard, 1885); Casco Bay (B. S. N. H., Davidson coll.); Gouldsborough, at Schoodic Point, 1912 (*fide*, Fred Rackliff); near Cape Elizabeth lightship, Aug. 12, 1908, and Cod Ledge, July 22, 1911 (*fide*, E. D. Rackliff); Maine (Me. S. and S. F. Report, 1867, 1898, 1901, 1905 and 1907, and Kendall, 1908).

## CARANGIDÆ. THE PAMPANOS.

81. **Naukrates ductor** (*Linnaeus*). PILOTFISH.

*Range*.—All warm seas, Cape Cod to West Indies.

MAINE.—Near Seguin Island (Bowdoin College coll., 1900, and Kendall, 1908).

82. **Vomer setapinnis** (*Mitchill*). MOONFISH; SHINER.

*Range*.—Tropical; both coasts of America, Maine to Brazil, and Cape San Lucas to Brazil; west coast of Africa.

MAINE.—Casco Bay (P. S. N. H.); Saco (Bachelder, 1845, and Storer, 1846, 1853 and 1867*a*); Maine (Holmes, 1862, Gill, 1873, Jordan & Gilbert, 1883, Jordan & Evermann, 1896, and Kendall, 1908).

83. **Selene vomer** (*Linnaeus*). LOOKDOWN; HORSE-HEAD; MOONFISH.

*Range*.—Tropical America on both coasts, from Cape Cod to Brazil, and lower California to Peru.

MAINE.—Casco Bay (Bowdoin College coll., 1900 [1880], and U. S. N. M., 1887); Maine (Kendall, 1908).

#### POMATOMIDÆ. THE BLUEFISHES.

84. **Pomatomus saltatrix** (*Linnaeus*). "BLUEFISH"; SKIP-JACK; HORSE MACKEREL; TAILOR; SALT-WATER TAILOR.

*Range*.—Atlantic and Indian Oceans.

MAINE.—Maine (Storer, 1853 and 1867*a*, Holmes, 1862, and Kendall, 1908); Casco Bay (U. S. N. M., 1873); from Georgia to Mt. Desert, Portland, Boothbay, and Kennebec River (Boardman & Atkins, 1875); off Seguin (U. S. N. M., 1879); Cape Florida to Penobscot Bay (Goode, 1884); Small Point, Casco Bay (Lee, 1885, and Kendall coll., 1896); Harraseeket River, Freeport (Kendall coll., 1900 [young]); Wolf's Neck, Freeport (Pettengill coll., 1899, 1900 [young]); Harraseeket River (Smith, 1902); Sturdevant's Island (Kendall coll., 1908 [young]); Scarborough (1891, E. B. Pillsbury).

#### CENTROLOPHIDÆ. THE RUDDERFISHES.

85. **Palinurichthys perciformis** (*Mitchill*). RUDDERFISH; LOGFISH.

*Range*.—Maine to Cape Hatteras.

MAINE.—Maine (Gill, 1873, Jordan & Evermann, 1896, and Kendall, 1908).

## LAMPRIDÆ. THE MOONFISHES.

86. **Lampris luna** (*Gmelin*). OPAH; "MOONFISH"; JERUSALEM HADDOCK.

*Range*.—Open waters of Atlantic and Pacific; taken off Newfoundland, Cape Sable and Maine.

MAINE.—Maine (Jordan & Evermann and Goode & Bean, 1896, and Kendall, 1908).

## STROMATEIDÆ. THE BUTTERFISHES.

87. **Poronotus triacanthus** (*Peck*). "BUTTERFISH"; "DOLLARFISH"; SHINER.

*Range*.—Nova Scotia to Florida.

MAINE.—Piscataqua River (Peck, 1804); Maine (Williamson, 1832, Holmes, 1862, Gill, 1873, Goode, 1884, Jordan & Evermann, 1896, and Kendall, 1908); Eastport (U. S. N. M., 1872); off Seguin (U. S. N. M., 1879); Eastport and Portland (Bean, 1881); Casco Bay (U. S. N. M., 1887, and Lee, 1885); off Casco Bay (Kendall coll., 1896); Small Point, Casco Bay (Kendall coll., 1896); Sturdevant's Island, Casco Bay (1909).

## CENTRARCHIDÆ. THE SUNFISHES.

88. **Lepomis auritus** (*Linnaeus*). RED SUNFISH; LONG-EARED SUNFISH; "QUIVER"; "ROACH".

*Range*.—New Brunswick to Florida and Louisiana, abundant east of Allegheny Mountains.

MAINE.—Fresh ponds (Williamson, 1832); Maine (Holmes, 1862, U. S. N. M., 1880, Goode, 1884, Jordan & Evermann, 1896, and Kendall, 1904 and 1908); Thompson Pond (Bowdoin College coll., 1900 [1883]); Craig's Pond (Merrill coll., 1898); Pushaw Pond, Toddy Pond and Alamoosook Lake (Merrill coll., 1899); Cobbosseecontee Lake (Kendall

coll., 1899*a*, and Smith, 1901); Lake Auburn (Kendall & Gould coll., 1900); Ambajejus Falls, First and Second Hurd Ponds, Fourth Debsconeag Lake, Pokwokamus Deadwater and Hale Pond (Kendall & Gould coll., 1901); outlet and inlet of Bowlin Pond (Kendall & Gould coll., 1902); Green Lake, Branch Pond and Floods Pond (Kendall coll., 1903); "common" (Atkins coll., 1903); Moose and Indian Ponds, and Sebasticook River [?] (Bowman coll., 1904); Floods Pond (Kendall coll., 1904).

89. **Lepomis gibbosus** (*Linnaeus*.) SUNFISH; "SUNNY"; "FLATFISH"; "ROACH"; "HOGBACK".

*Range*.—Great Lakes region to New Brunswick and southward east of the Alleghenies to Virginia; rather rare farther south.

MAINE.—Ponds and mill streams (Williamson, 1832); Maine (Holmes, 1862, Jordan & Evermann, 1896, and Kendall, 1904 and 1908); Grand Lake Stream (U. S. N. M., 1877); Auburn (U. S. N. M., 1883); Boyden Lake, Penamaquan Lake and River, Dennys River, Leweys Lake, St. Croix River and Magurrowock Stream (Kendall, 1894); Chickawaka Lake (Kendall coll., 1895*a*); Sebago and Little Sebago Lakes and Songo River (Kendall coll., 1898); Androscoggin River and Lake Auburn (Merrill coll., 1899); Sebago Lake (Smith, 1900); Little Sebago Lake, Pettengill's Pond and Thomas Pond (Kendall coll., 1899); Cobbosseecontee Lake (Kendall coll., 1899*a*); Little Sebago Lake (Kendall coll., 1900*a*); Cobbosseecontee Lake (Smith, 1901); "common" (Atkins coll., 1903); Moose and Indian Ponds and Sebasticook River (Bowman coll., 1904).

90. **Micropterus dolomieu** *LaCépède*. "BLACK BASS"; SMALL-MOUTHED BLACK BASS.

*Range*.—From Lake Champlain to Manitoba and south-



ward on both sides of the mountains to South Carolina and Arkansas in cool waters.

MAINE.—Cochmewagan Pond, Cobbosseecontee Pond, Duck Pond, Trip Pond, Gardner's Pond, Gun Point Ice Company's Pond, Hosmer Pond, Keazer's, Cushman and Little Pushaw Ponds, lakes in Newport and Glenburn, Snow and Belgrade Lakes, Lake Maranacook and Pushaw Pond (Page, 1884); Boyden and Pennamaquan Lakes (Kendall, 1894); Chickawaka Lake (Kendall coll., 1895*a*); mouth Songo River, Presumpscot River and Little Sebago Lake (Kendall coll., 1898, 1899, 1900*a*, 1901, 1902 and 1903); outlet of Thomas Pond, in South Casco, and Cobbosseecontee Lake and inlets (Kendall coll., 1899*a*); Sebago Lake (Smith, 1900); Gun Point Ice Company's Pond (Kendall & Gould coll., 1900); Cobbosseecontee Lake (Smith, 1901); Little Sebago Lake (Kendall coll., 1901*a*); Wissataquoik Deadwater (Kendall & Gould coll., 1902); Presumpscot River, Sebago and Little Sebago Lakes, Green Lake and Branch Pond (Kendall coll., 1903); "introduced, common" (Atkins coll., 1903); Moose and Indian Ponds (Bowman coll., 1904); Maine (Me. F. C. Report, 1870, 1872*a*, 1875, 1876, 1877, 1878, 1882, 1883, 1886, 1888, 1896*a* and 1899, and Kendall, 1904 and 1908).\*

#### PERCIDÆ. THE PERCHES.

91. **Perca flavescens** (*Mitchill*). YELLOW PERCH; "PERCH"; "BRINDLE PERCH".

*Range*.—Abundant in the Great Lakes and in coastwise streams from Nova Scotia to North Carolina; upper Mississippi and St. Lawrence waters.

MAINE.—Maine (Williamson, 1832, Storer, 1853 and 1867*a*, Holmes, 1862, and Kendall, 1904 and 1908); Auburn (U. S. N. M., 1883); Thompson's Pond (Bowdoin Col-

\*Introduced and now widely distributed in southern half of the state.

lege coll., 1900 [1883]); Piscataqua River (Atkins, 1887); Grand Lake, Grand Lake Stream, Meddybemps Lake, etc. (Kendall, 1894); Songo and Presumpscot Rivers, Sebago and Little Sebago Lakes (Kendall coll., 1898, 1899 and 1900); Pettengill Pond, Panther Pond, Rattlesnake Pond, Thomas Pond, and Cobbosseecontee and Maranacook Lakes (Kendall coll., 1899*a*); Sebago Lake (Smith, 1900); Cobbosseecontee Lake (Smith, 1901); Thomas Pond (Kendall coll., 1900*a*); East Branch of Penobscot River and Matagamonsis Lake (Kendall & Gould coll., 1900); Ambajejus Falls, Hurd Pond, First, Second and Fourth Debsconeag Lakes, Pokwokamus Deadwater, East Branch of Penobscot River below Matagamon dam, and Matagamonsis and Beau Lakes (Kendall & Gould coll., 1901); Presumpscot River and Thomas Pond (Kendall coll., 1902); Green Lake, Branch Pond and First Debsconeag Lake (Kendall coll., 1903); Wissataquoik Deadwater and Little Sebago Lake (Kendall & Gould coll., 1902); "common" (Atkins coll., 1903); Moose and Indian Ponds, and Seabasticook River (Bowman coll., 1904); St. John River, near Fish River (Evermann, 1905).

#### SERRANIDÆ. THE SEA BASSES.

92. ***Roccus lineatus*** (Bloch). "STRIPED BASS"; "SEA BASS".

*Range*.—Atlantic coast of North America from Gulf of St. Lawrence to Gulf of Mexico.

MAINE.—Kenduskeag (Williamson, 1832); Maine (Storer, 1853 and 1867*a*, Holmes, 1862, Me. F. C. Report, 1868 and 1869, Me. S. and S. F. Report, 1892, 1897, 1898, 1901, 1903, 1905, 1907, 1909, 1911 and 1913, and Kendall, 1908); Merrymeeting Bay, Saco River, Kennebec River, Eastern River and Seabasticook River (Foster & Atkins, 1868); Ken-

nebec, Seabasticook, Sheepscot, Eastern, Dyer, St. Croix and Piscataqua Rivers, Merrymeeting Bay, Winnegance Creek and Casco Bay (Atkins, 1887); Wolf's Neck (Pettengill coll., 1900 [young]); Small Point (Lee, 1885, and Kendall coll., 1896); Eastern River and Verona (Evermann, 1904).

93. **Morone americana** (*Gmelin*). "WHITE PERCH"; "SEA PERCH"; "SEA BASS".

*Range*.—Atlantic Coast of United States from Nova Scotia to South Carolina. A permanent resident in some northern lakes and in rivers southward.

MAINE.—Salt and fresh water ponds, coves and rivers (Williamson, 1832); Maine (Storer, 1853 and 1867*a*, Holmes, 1862, Me. F. C. Report, 1869, 1888, 1896*a* and 1899, and Kendall, 1904 and 1908); lakes emptying into Kennebec River as far back as Skowhegan in Penobscot River, still further north, and in the lakes of the St. Croix and intervening territory (Foster & Atkins, 1868); Grand Lake Stream (U. S. N. M., 1877); Casco Bay (Lee, 1885); Sheepscot River and Middle Bay (Bowdoin College coll., 1900 [1889]); Freeport and Eastport (Kendall coll., 1893); Sysladobsis Lake, Big and Leweys Lakes, and Meddybemps Lake (Kendall, 1894); Grand Lakes (Rathbun & Wakeham, 1897); Pushaw and Cochnewagan Ponds (Merrill coll., 1899); Sebago Lake (Smith, 1900); Sebago and Little Sebago Lakes (Kendall coll., 1898, 1899 and 1900*a*); Cobbosseecontee Lake (Kendall coll., 1899*a*, and Smith, 1901); Pokwokamus Deadwater (Kendall & Gould coll., 1901); Wolf's Neck, Freeport (Pettengill coll., 1900); Harraseeket River (Kendall coll., 1901*b* and 1902, and Smith, 1902); Little Sebago Lake (Kendall coll., 1902); Green Lake and Branch Pond (Kendall coll., 1903); "common" (Atkins coll., 1903); Moose and Indian Ponds, and Seabasticook River (Bowman coll., 1904).

94. **Centropristes striatus** (*Linnaeus*). BLACK SEA BASS.

*Range*.—Maine to Florida.

MAINE.—Casco Bay at Small Point (Kendall coll., 1896, and Smith & Kendall, 1898); Maine (Kendall, 1903*a* and 1908); Matinicus Island (B. S. N. H., Arethusa coll., 1880).

95. **Stenotomus chrysops** (*Linnaeus*). SCUP; PORGY.

*Range*.—Maine to South Carolina.

MAINE.—Maine (Holmes, 1862); Eastport (U. S. N. M., 1872); Small Point (Kendall coll., 1896, and Smith & Kendall, 1898); Maine (Kendall, 1903*a*).

SCIÆNIDÆ. THE CROAKERS.

96. **Menticirrbus saxatilis** (*Bloch & Schneider*). KINGFISH; MINKFISH.

*Range*.—Cape Ann to Pensacola.

MAINE.—“Seldom seen” (Williamson, 1832); Casco Bay (Lee, 1885, and Bowdoin College coll., 1900 [1880]); Maine (Kendall, 1903*a* and 1908).

97. **Cynoscion regalis** (*Bloch & Schneider*). SQUETEAGUE; WEAKFISH; “TROUT”.

*Range*.—Cape Cod to Mobile.

MAINE.—Maine (Holmes, 1862).

LABRIDÆ. THE WRASSE-FISHES.

98. **Tautoglabrus adspersus** (*Walbaum*). “CUNNER”.

*Range*.—Labrador to Sandy Hook.

MAINE.—Casco Bay and eastward (Williamson, 1832);



coast of Maine (Perley, 1852): Maine (Storer, 1846, 1855 and 1867*a*, and Holmes, 1862); Portland (Bean, 1881); Casco Bay (U. S. N. M., 1873, Lee, 1885, and Kendall coll., 1892, 1896, 1898 and 1893); Freeport (Kendall coll., 1900 and 1902); Orr's Island, Casco Bay (Kendall & Gould coll., 1900); Penobscot River and Bay (Evermann, 1904).

99. **Tautoga onitis** (*Linnæus*). TAUTOG; "MONTAUG".\*

*Range*.—New Brunswick to South Carolina.

MAINE.—Maine (Perley, 1852, Storer, 1846, 1855 and 1867*a*, Holmes, 1862, Jordan & Evermann, 1896, and Kendall, 1908); Casco Bay (Lee, 1885); Small Point (Kendall coll., 1896); Orr's Island (Kendall & Gould coll., 1900); mouth of Harraseeket River, Freeport (Parker coll., 1901 [?]); Porter's Landing Brook, Freeport (Townsend coll., 1903); Penobscot River and Bay (Evermann, 1904); Bustin's Island, Casco Bay (Kendall coll., 1912).

100. **Aleutera schoepfii** (*Walbaum*). "FILEFISH"; FOOLFISH.

*Range*.—Cape Cod to Texas.

MAINE.—Portland (Storer, 1845, 1846, 1863 and 1867*a*, and Kendall, 1908).

#### TETRAODONTIDÆ. THE PUFFERS.

101. **Spheroides maculatus** (*Bloch & Schneider*). PUFFER; SWELL-TOAD; BLOWER; "BALLOON-FISH".

*Range*.—Casco Bay to Florida.

MAINE.—Small Point (Kendall coll., 1896, and Smith & Kendall, 1898); Maine (Kendall, 1903*a* and 1908).

\*A corruption of the proper name.

MOLIDÆ. THE HEADFISHES.

102. **Mola mola** *Linneus*. "SUNFISH."

*Range*.—Pelagic in most temperate and tropical seas; north to England, Grand Banks and San Francisco.

MAINE.—Maine (Williamson, 1832); Portland (U. S. N. M., 1875, and Kendall, 1908); Cod Ledge and near Seguin (Willard, 1895); off Small Point, 1907 (Norton); Cod Ledge (E. D. Rackliff coll., 1911 and 1912).

SCORPÆNIDÆ. THE ROCKFISHES.

103. **Sebastes marinus** (*Linneus*). "REDFISH"; "RED BREAM"; "RED PERCH"; "ROSEFISH".

*Range*.—North Atlantic on both coasts; south, in deep water, to off coast of New Jersey.

MAINE.—Near Portland (Perley, 1852); Maine (Storer, 1853 and 1867*a*, Holmes, 1862, Gill, 1873, Jordan & Evermann, 1896, and Kendall, 1908); Eastport (B. S. N. H., Saltonstall & Emerton coll. and Verrill coll., Verrill, 1871, U. S. N. M., 1872, Boardman & Atkins, 1875, Goode & Bean, 1895, Bean, 1881, and Kendall coll., 1893); Casco Bay (U. S. N. M., 1873, and Lee, 1885).

COTTIDÆ. THE SCULPINS.

104. **Cottus gracilis** (*Heckel*). BLOB; FRESH WATER SCULPIN; MILLER'S THUMB; "ROCK CUSK"; "BROOK CUSK".

*Range*.—Recorded from New Brunswick west to New York.

MAINE.—Auburn (U. S. N. M., 1883); Richardson Lake (B. S. N. H., Putnam coll.); Bear River (Bowdoin College coll., 1900 [?]); Webster, Chamberlain, Eagle, Churchill

and Beau Lakes, Cross Lake Thoroughfare and tributary of Aroostook River (Kendall & Gould coll., 1901, and Kendall coll., 1903); Square Lake and Cross Lake Thoroughfare (Kendall coll., 1903); Rangeley Lakes (Atkins coll., 1903*b*); Sebago Lake (Moses coll., 1906, and Kendall coll., 1907 and 1908); Cold Spring Brook, Gorham (Melville Waterhouse, P. S. N. H. coll.); Maine (Kendall, 1908).

105. **Myoxocephalus aenus** (*Mitchill*). GRUBBY; LITTLE SCULPIN.

*Range*.—Maine to New York.

MAINE.—Casco Bay (U. S. N. M., 1873, and Lee, 1885); Wolf's Neck (Pettengill coll., 1884 and 1900); Maine (Kendall, 1908).

106. **Myoxocephalus scorpius** (*Linnaeus*). SHORT-HORN SCULPIN.

*Range*.—Arctic regions and northern Europe.

MAINE.—Maine (Holmes, 1862 [?]); Eastport (Goode & Bean, 1879, Bean, 1881, Kendall, 1908, Kendall coll., 1893, and Jordan & Evermann, 1898); Casco Bay at Freeport (Kendall coll., 1892 and 1896).

107. **Myoxocephalus groenlandicus** (*Cuvier* & *Valenciennes*). "DEEP WATER SCULPIN"; "BLACK SCULPIN".

*Range*.—Greenland to New York.

MAINE.—Maine (Girard, 1849, Storer, 1846, 1853 and 1867*a*, Holmes, 1862, and Kendall, 1908); Eastport (Verrill, 1871, U. S. N. M., 1872, and Kendall, 1893); Casco Bay (U. S. N. M., 1873); Bucksport (U. S. N. M., 1878); off Casco Bay and off Whaleboat Island (Kendall coll., 1892); Penobscot River and Bay (Evermann, 1904).

108. **Myoxocephalus octodecemspinosus** (*Mitchill*). "SCULPIN."

*Range*.—Labrador to Virginia.

MAINE.—"Mouths of salt water harbors and rivers" (Williamson, 1832); Maine (Holmes, 1862, and Kendall, 1908); Eastport (Verrill, 1871); Casco Bay (U. S. N. M., 1873); Bucksport (U. S. N. M., 1878); Portland (Bean, 1881); Eastport (Kendall coll., 1893); Casco Bay (Kendall coll., 1892, 1893, 1898 and 1903, and Lee, 1885); Small Point (Kendall coll., 1896); Wolf's Neck, Freeport (Pettengill coll., 1900); Freeport (Kendall coll., 1902 and 1903).

109. **Gymnocanthus tricuspis** (*Reinhardt*). NAKED-SPINED SCULPIN.

*Range*.—South to Norway and Maine.

MAINE.—Eastport (U. S. N. M., 1872, and Kendall, 1908).

110. **Hemitripterus americanus** (*Gmelin*). SEA RAVEN; "TOADFISH".

*Range*.—Labrador to New York.

MAINE.—Salt water harbors (Williamson, 1832); Maine (Storer, 1853 and 1867*a*, Holmes, 1862, and Kendall, 1908); Eastport (U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873); Bucksport (U. S. N. M., 1878); Eastport, Portland and Bucksport (Bean, 1881); Casco Bay (Lee, 1885); Eastport (Kendall coll., 1893); Small Point (Kendall coll., 1896).

#### AGONIDÆ. THE ALLIGATOR FISHES.

111. **Aspidophoroides monopterygius** (*Bloch*). ALLIGATOR-FISH.

*Range*.—Greenland to Cape Cod.

MAINE.—Maine (Holmes, 1862, and Kendall, 1908); Eastport (U. S. N. M., 1872, and Kendall coll., 1893).



## CYCLOPTERIDÆ. THE LUMPFISHES.

112. **Cyclopterus lumpus** *Linnaeus*. "LUMPFISH"; "LUMP-SUCKER"; "LUMP".

*Range*.—North Atlantic on both coasts south to New Jersey and France.

MAINE.—Westerly coast of the State (Williamson, 1832); Maine (Storer, 1846, 1863 and 1867*a*, and Kendall, 1908); Eastport (U. S. N. M., 1872, and Kendall coll., 1893); Bucksport (U. S. N. M., 1878); off Seguin (B. S. N. H., Arethusa coll., 1880); Casco Bay (U. S. N. M., 1873 and 1887, and Lee, 1885); Bay of Fundy (Bowdoin College coll., 1900 [1891]); off the coast (Kendall coll., 1895*b*, and Kendall coll., 1896); Small Point, Casco Bay (Kendall coll., 1896); Penobscot River and Bay (Evermann, 1904); Sturdevant's Island (Kendall coll., 1909).

113. **Eumicrotremus spinosus** (*Müller*). SPINY LUMPFISH.

*Range*.—North Atlantic and Arctic Oceans, south to Maine and Denmark.

MAINE.—Eastport (Garman, 1892, Jordan & Evermann, 1898, and Kendall, 1908.)

## LIPARIDIDÆ. THE SEA SNAILS.

114. **Neoliparis atlanticus** *Jordan & Evermann*. SEA-SNAIL; DUSKY SEA-SLUG.

*Range*.—Newfoundland to Cape Cod.

MAINE.—Portland Harbor (Storer, 1867 and 1867*a*); Eastport and Portland Harbor (Garman, 1892); near Kittery (Bowdoin College coll., 1900 [?]); Seguin Island (Spinney coll., 1900); rocky shores of Cape Elizabeth in winter; Maine (Kendall, 1908).

115. **Liparis liparis** (Cuvier). STRIPED SEA SLUG ;  
STRIPED SEA-SNAIL.

*Range*.—North Atlantic on both coasts north to Spitsbergen, south to Connecticut and France.

MAINE.—Yellow Rock (Kendall coll., 1893) ; Maine (Garman, 1892, Jordan & Evermann, 1898, and Kendall, 1908).

BATRACHOIDIDÆ. THE TOADFISHES.

116. **Opsanus tau** (Linneus). TOADFISH.

*Range*.—Cape Cod to Cuba.

MAINE.—Maine (Storer, 1846, 1855 and 1876*a*, and Kendall, 1908) ; Kittery (Holmes, 1862).

ECHENEIDIDÆ. THE REMORAS.

117. **Echeneis naucrates** (Linneus). SHARK-SUCKER ; PEGA ; PEGADOR ; SUCKING-FISH.

*Range*.—Warm seas, universally distributed ; common north to Cape Cod, and occasionally to San Francisco.

MAINE.—Seal Harbor, Knox County (Bowdoin College coll., 1907).

XIPHIDIIDÆ. THE GUNNELS.

118. **Pholis gunnellus** (Linneus). GUNNEL ;  
"ROCK-EEL".

*Range*.—North Atlantic, Labrador to Wood's Hole, Mass., and Norway to France.

MAINE.—Maine (Storer, 1855 and 1867*a*, Holmes, 1862, and Kendall, 1908) ; Eastport (U. S. N. M., 1872, Bean, 1881, and Kendall coll., 1893) ; Casco Bay (U. S. N. M., 1873, Lee, 1885, and Kendall coll., 1892) ; New Meadows River (Bowdoin College coll., 1900 [1890]) ; Saco Bay, Muscongus Bay, and Matinicus Rock (Norton).

## STICHÆIDÆ. THE SHANNIES.

119. **Ulvaria subbifurcata** (*Storer*). RADIATED SHANNY; "LITTLE-CUSK".

*Range*.—North Atlantic, south to Cape Cod.

MAINE.—Maine (Holmes, 1862, Gill, 1873, and Kendall, 1908); Casco Bay (U. S. N. M., 1873); Matinicus Rock (Norton coll., 1903).

120. **Leptoclinus maculatus** (*Fries*). SHANNY.

*Range*.—Arctic seas and south to Gulf of Maine, Aleutian Islands, Norway and Sweden.

MAINE.—Gulf of Maine (U. S. N. M., 1877*a*).

121. **Lumpenus lumpetraeformis** (*Walbaum*). SERPENT BLENNY.

*Range*.—North Atlantic and Arctic, on both coasts south to Sweden and Norway, and south to Cape Cod.

MAINE.—Eastport (U. S. N. M., 1872, and Kendall, 1908).

## CRYPTACANTHODIDÆ. THE WRYMOUTHS.

122. **Cryptacanthodes maculatus** (*Storer*). WRYMOUTH; "CONGER EEL"; "BASTARD-CUSK".

*Range*.—Labrador to Long Island Sound.

MAINE.—Piscataqua River (Peck, 1804); Maine (Williamson, 1832, Holmes, 1862, Gill, 1873, and Kendall, 1908); Eastport (U. S. N. M., 1853); Eastport (Kendall coll., 1893); Casco Bay (Kendall coll., 1878, Lee, 1885, and Bowdoin College coll., 1900 [1880]); Middle Bay (Bowdoin College coll., 1900 [1897] [white]).

## ANARHICHADIDÆ. THE WOLFFISHES.

123. **Anarhichas lupus** (*Linnaeus*). WOLFFISH; "CATFISH".

*Range*.—North Atlantic on both coasts south to Cape Cod and France.

MAINE.—Maine (Williamson, 1832, Storer, 1846, 1855 and 1867*a*, Holmes, 1862, and Kendall, 1908); Eastport, Me. [and Grand Manan, N. B.] (Verrill, 1871 and 1872); Casco Bay (Kendall coll., 1878, and Lee, 1885); Eastport (Kendall coll., 1893); White Head Mud and adjacent waters (Norton).

124. **Anarhichas minor** *Olafsen*. SPOTTED WOLF-FISH.

*Range*.—North Atlantic on both coasts, chiefly north of Arctic Circle, south to Gloucester, Mass., and Norway.

MAINE.—Eastport (Goode & Bean, 1880 and 1896, and Jordan & Evermann, 1898*a*).

ZOARCIDÆ. THE EELPOUTS.

125. **Zoarces anguillaris** (*Peck*). "EELPOUT"; "CONGER EEL"; "MOTHER-OF-EELS"; "LIPSYFISH"; LAMPER-EEL".

*Range*.—Labrador to Delaware.

MAINE.—Piscataqua River (Peck, 1804); Eastern River (Williamson, 1832); Maine (Storer, 1846, 1855 and 1867*a*, Holmes, 1862, Gill, 1873, and Kendall, 1908); Eastport (B. S. N. H., Hyatt & Vambleek coll., U. S. N. M., 1872, and Kendall coll., 1893); Bucksport (U. S. N. M., 1878); Casco Bay (Lee, 1885); Eastport and Portland (Bean, 1881); Small Point (Kendall coll., 1896); off Whaleboat and Eagle Islands (Kendall coll., 1903 and 1904).

126. **Lycenchelys verrillii** (*Goode & Bean*). WOLF-EEL.

*Range*.—Coast of Massachusetts in deep water northward.



MAINE.—Gulf of Maine (Goode & Bean, 1879); coast of Massachusetts northward (Jordan & Evermann, 1898*a*).

#### TRIGLIDÆ. THE SEA-ROBINS.

127. **Prionotus carolinus** *Linnæus*. SEA-ROBIN;  
GREENEYE.

*Range*.—Maine to South Carolina.

MAINE.—Casco Bay (Bowdoin College coll., 1880, and Lee, 1885); Harpswell (Lee, 1880, and Smith & Kendall, 1898); off Monhegan (Captain Benner coll., 1882 or 1883); Five Islands (Bowdoin College coll., 1900 [1895]); Small Point (Kendall coll., 1896, and Smith & Kendall, 1898); Maine (Kendall, 1903*a* and 1908); Mt. Desert (Fred Rackliff in coll. P. S. N. H., 1911); Saco Bay (E. B. Pillsbury coll.).

#### CEPHALACANTHIDÆ. THE FLYING-FISHES.

128. **Cephalacanthus volitans** (*Linnæus*). "FLYING-ROBIN".

*Range*.—Atlantic Ocean on both coasts.

MAINE.—Maine (Holmes, 1862, and Kendall, 1908).

#### MERLUCCIIDÆ. THE SILVER HAKES.

129. **Merluccius bilinearis** (*Mitchill*). SILVER HAKE; "NEW ENGLAND HAKE"; "ENGLAND HAKE"; "WHITING"; "DINGY HAKE"; "DINGY".

*Range*.—Straight Belle Isle to Bahamas.

MAINE.—Maine (Holmes, 1862, Gill, 1873, and Kendall, 1908); Eastport (U. S. N. M., 1872); Bluehill Bay, Brooklin and Kennebec River (Boardman & Atkins, 1875); Portland and Eastport (Bean, 1881); Eastport (Kendall coll., 1893); off the coast (Kendall coll., 1895); Small Point, Casco Bay (U. S. N. M., 1872, and Kendall coll., 1896 and 1903); Pas-

samaquoddy Bay (Moore, 1897); Freeport (Kendall coll., 1898 [young]); Wolf's Neck, Freeport (Pettengill coll., 1900 [young]); Freeport (Kendall coll., 1902 [young]); Penobscot River and Bay (Evermann, 1904).

## GADIDÆ. THE CODFISHES.

130. **Pollachius virens** (*Linnaeus*). "POLLACK."

*Range*.—North Atlantic on both coasts south to Block Island and France.

MAINE.—"Bays of Passamaquoddy and the Isle of Holt" (Williamson, 1832); Passamaquoddy Bay (Perley, 1852); Maine (Storer, 1858 and 1867*a*, Holmes, 1862, and Kendall, 1908); Eastport (Verrill, 1871 and 1872, and U. S. N. M., 1872); on our coast (Boardman & Atkins, 1875); Hancock County (Wasson, 1878); grounds off Eastport (Bean, 1881, Kendall coll., 1893, and Kendall, 1897*c*); Moosabee Light, off Isle au Haute, off Matinicus Island, off Metinic Island, Monhegan Island, north, northeast, southeast, southwest and west of Monhegan Island, off Seguin Island, and off Cape Porpoise (Collins & Rathbun, 1887); Small Point (Kendall coll., 1896); Passamaquoddy Bay (Rathbun & Wakeham, 1897); Cross Island (Moore, 1897); Sheepscot River (Bowdoin College coll., 1900 [?]); Casco Bay (Lee, 1885, and Kendall coll., 1892, 1903 and 1904); Lumbo Ledge (Kendall & Gould coll., 1900); Wolf's Neck, Freeport (Pettengill coll., 1900); Freeport (Kendall coll., 1902); Searsport, Stockton Springs and Brooksville (Evermann, 1904).

131. **Microgadus tomcod** (*Walbaum*). "TOMCOD"; "TOMMYCOD"; "FROSTFISH".

*Range*.—Labrador to Virginia.

MAINE.—Narraguagus and Pleasant River (Williamson, 1832); St. Georges River (Eaton, 1851); Maine (Storer,

1846, 1858 and 1867*a*, Holmes, 1862, Me. S. and S. F. Report, 1897, 1905 and 1907, and Kendall, 1908); Eastport (U. S. N. M., 1872, and Kendall coll., 1893); Hancock County (Wasson, 1878); Casco Bay (Lee, 1885); Bucksport (U. S. N. M., 1878); Eastport and Portland (Bean, 1881); Machias, Chandler's, Wescongus, Tunk, Penobscot, Kennebec and Piscataqua Rivers, and Casco Bay and tributaries (Atkins, 1887); Wolf's Neck, Freeport (Pettengill coll., 1900); Freeport and Lower Penobscot River (Kendall coll., 1902); Penobscot River and Bay (Evermann, 1904).

132. **Gadus callarias** (*Linnaeus*). "COD"; "COD-FISH"; "ROCK COD".

*Range*.—North Atlantic, south to Virginia and France.

MAINE.—"Marsh Bay" [Penobscot] (Williamson, 1832); Maine (Storer, 1846, 1858 and 1867*a*, Holmes, 1862, Goode, 1875, and Kendall, 1908); Eastport (Verrill, 1871, and U. S. N. M., 1872); Casco Bay (U. S. N. M., 1873, and Lee, 1885); Hancock County (Wasson, 1878); grounds off Moosabec Light, off Petit Manan, off Mount Desert Island, off Isle au Haute, off Matinicus Island, off Metinic Island, Monhegan Island, north, northeast, south and southeast of Monhegan, between Monhegan and Pemaquid, off Seguin Island, off Casco Bay and off Cape Porpoise (Collins & Rathbun, 1887); St. Croix River (Atkins, 1887); off Whaleboat, Goose and Eagle Islands (Kendall coll., 1892); Eastport and Portland markets (Kendall coll., 1893); Cod Ledge, etc. (Willard, 1895); off the coast (Kendall coll., 1895*b*); Small Point (Kendall coll., 1896); Eastport (Kendall, 1897*a*); Passamaquoddy Bay (Rathbun & Wakeham, 1897); Cross Island (Moore, 1897); Lumbo Ledge (Kendall & Gould coll., 1900); Penobscot River and Bay (Evermann, 1904); off Whaleboat and Eagle Islands (Kendall coll., 1903 and 1904).

133. **Melanogrammus aeglefinus** (*Linnaeus*).  
"HADDOCK"; "WHITE EYE".

*Range*.—North Atlantic, both coasts south to France and North Carolina.

MAINE.—Shores as far eastward as Mount Desert (Williamson, 1832); between Campobello and Eastport (Perley, 1852); Maine (Storer, 1846, 1858 and 1867*a*, Holmes, 1862, and Kendall, 1908); Eastport (Verrill, 1871 and 1872, U. S. N. M., 1872, Kendall coll., 1893, and Kendall, 1897*a*); Casco Bay (U. S. N. M., 1873, and Lee, 1885); grounds off Petit Manan, off Mount Desert Island, off Isle au Haute, off Matinicus Island, off Metinic Island, Monhegan, south-east and west of Monhegan, between Monhegan and Pemaquid, off Seguin Island, off Casco Bay, and off Cape Porpoise (Collins & Rathbun, 1887); Passamaquoddy Bay (Rathbun & Wakeham, 1897); Cross Island (Moore, 1897); Casco Bay (Kendall coll., 1898, 1903 and 1904); Small Point (Kendall coll., 1896); Lumbo Ledge, Casco Bay (Kendall & Gould coll., 1900) White Head Mud and Cod Ledge (*fide*, Norton).

134. **Lota maculosa** (*Le Sueur*). BURBOT; FRESH WATER CUSK; "CUSK"; "QUE D'ANGUILLE".

*Range*.—New England and Great Lakes region north to the Arctic Seas and west to the head waters of the Missouri, the Frazer River basin, and Behring Strait.

MAINE.—Sebago Lake (Mitchill, 1818); Moosehead Lake (Williamson, 1832); Eagle and St. Francis Lakes (Perley, 1852); Maine (Holmes, 1862, Putnam & Pickering, 1865, and Kendall, 1904 and 1908); Sebago Lake (Bowdoin College coll., 1900 [?]); Stillwater River (Merrill coll., 1899); Sebago Lake (Smith, 1900); Matagamom Lake (Kendall & Gould coll., 1900); Hurd Pond, and Round and Beau Lakes



(Kendall & Gould coll., 1901); Sebago Lake, Green Lake and Cross Lake Thoroughfare (Kendall coll., 1903); "common north" (Atkins coll., 1903); Eagle Lakes (Evermann, 1905); Moose Pond and Sebasticook River (Bowman coll., 1904).

135. **Urophycis regius** (*Walbaum*). SPOTTED HAKE.

*Range*.—Cape Cod to the Carolinas.

MAINE.—Off Seguin Island (B. S. N. H., Arethusa coll., 1880, and Kendall, 1908).

136. **Urophycis tenuis** (*Mitchill*). "HAKE"; WHITE-HAKE.

*Range*.—Banks of Newfoundland to Cape Hatteras.

MAINE.—Within three leagues of Castine (Williamson, 1832); Maine (Storer, 1859 and 1867*a*, Holmes, 1862, Gill, 1873, and Kendall, 1908); Eastport (Verrill, 1871, U. S. N. M., 1872, Bean, 1881, Kendall coll., 1893, and Kendall, 1897*a*); Casco Bay (U. S. N. M., 1873, and Lee, 1885); Hancock County (Wasson, 1878); Passamaquoddy Bay (Rathbun & Wakeham, 1897); Cross Island (Moore, 1897); Grounds off Moosabec Light, off Petit Manan, off Isle au Haute, off Matinicus Island, off Metinic Island, southeast of Monhegan, between Monhegan Island and Pemaquid, and off Seguin Island (Collins & Rathbun, 1887); off the coast (Kendall coll., 1895*b*); Small Point (Kendall coll., 1896); Bay of Fundy (Bowdoin College coll., 1900 [1891]); Wolf's Neck (Pettengill coll., 1900); Casco Bay (Kendall coll., 1903).

137. **Urophycis chuss** (*Walbaum*). "SQUIRREL-HAKE."

*Range*.—Gulf of St. Lawrence to Virginia.

MAINE.—Maine (Holmes, 1862, and Kendall, 1908); Hancock County (Wasson, 1878); Eastport (Kendall coll., 1903);

off the coast (Kendall coll., 1895); Passamaquoddy Bay (Rathbun & Wakeham, 1897); Small Point, Casco Bay (Kendall coll., 1896); Freeport (Kendall coll., 1898 and 1902 [young]); Wolf's Neck, Freeport (Pettengill coll., 1900).

138. **Enchelyopus cimbrius** (*Linneus*). FOUR-BEARDED ROCKLING.

*Range*.—North Atlantic on both coasts south to New York, and Norway and Sweden.

MAINE.—Jonesport (Kendall coll., 1893); off Pemaquid (B. S. N. H., Arethusa coll., 1880); Maine (Kendall, 1908).

139. **Brosmius brosme** (*Muller*). "CUSK."

*Range*.—North Atlantic south to Cape Cod and Denmark.

MAINE.—Maine (Williamson, 1832, Holmes, 1862, and Kendall, 1908); Casco Bay (Lee, 1885); grounds off Matineus Island, Monhegan Island, southeast of Monhegan and off Cape Porpoise (Collins & Rathbun, 1887); off Wells Bay and Cape Porpoise (Atwood, 1867); Cod Ledge, 1912 and 1913 (*vide*, Norton); Eastport (Kendall coll., 1893).

MACRURIDÆ. THE GRENADIERS.

140. **Macrourus bairdi** (*Goode & Bean*). GRENA-DIER; RAT-TAIL.

*Range*.—West Indies to Maine, in deep water.

MAINE.—Eastport (Kendall coll., 1893); Maine (Kendall, 1902*b* and 1908).

## PLEURONECTIDÆ. THE FLAT-FISHES.

141. **Hippoglossus hippoglossus** *Linneus*.  
"HALIBUT."

*Range*.—All northern seas south to France, Sandy Hook and off San Francisco.

MAINE.—About bays and islands (Williamson, 1832); Maine (Perley, 1852, Storer, 1859 and 1867*a*, Holmes, 1862, and Kendall, 1908); Eastport (U. S. N. M., 1872); off the coast (Kendall coll., 1895); sixty miles southeast of Portland (Perley, 1852); Monhegan (Kendall coll., 1913); Metinic (*fide*, Norton).

142. **Hippoglossoides platessoides** (*Fabricius*).  
SAND-DAB.

*Range*.—North Atlantic, both sides, south to Cape Cod, and the coasts of England and Scandinavia.

MAINE.—Southeastward of Boone Island in twenty-five fathoms, southward of Cape Porpoise in thirty fathoms, off half-way rock in thirty fathoms, off Seguin in twenty-five fathoms, and southward of Monhegan in sixty fathoms (Bigelow, 1914).

143. **Paralichthys dentatus** *Linneus*. SUMMER  
FLOUNDER; "TURBOT".

*Range*.—Maine to Chesapeake Bay.

MAINE.—Maine (Holmes, 1862, and Kendall, 1908); Casco Bay (U. S. N. M., 1873).

144. **Lophopsetta maculata** *Mitchill*. "PLAICE";  
"SAND-DAB".

*Range*.—Nova Scotia to South Carolina.

MAINE.—Casco Bay (U. S. N. M., 1873, and Jordan & Evermann, 1898*a*); Eastport (U. S. N. M., 1875); Portland

(U. S. N. M., 1873, and Bean, 1881); Bucksport and Passamaquoddy Bay (Goode, 1884); Freeport and Small Point (Kendall coll., 1896, and Smith & Kendall, 1898); Maine (Kendall, 1903*a* and 1908).

145. ***Limanda ferruginea*** (*Storer*). "SAND-DAB"; "FLUKE"; "YELLOW-TAIL".

*Range*.—Labrador to New York.

MAINE.—Maine (Williamson, 1832, Gill, 1873, and Kendall, 1908); Casco Bay (U. S. N. M., 1873); Gulf of Maine (U. S. N. M., 1877*a*); White Head Mud (*vide*, Norton).

146. ***Pseudopleuronectes americanus*** (*Walbaum*). WINTER FLOUNDER; "FLOUNDER"; "ROUGHBACK FLOUNDER"; "BLACKBACK".

*Range*.—Labrador to South Carolina.

MAINE.—Coves and rivers (Williamson, 1832); Maine (Holmes, 1862, Me. S. and S. F. Report, 1898, 1901, 1905 and 1907, and Kendall, 1908); Eastport (U. S. N. M., 1872); Bucksport (U. S. N. M., and Bean, 1879); Hancock County (Wasson, 1878); Casco Bay (Lee, 1885, and Kendall coll., 1892); Casco Bay and Eastport (Kendall coll., 1893); Small Point (Kendall coll., 1896); Wolf's Neck (Pettengill coll., 1900); Freeport (Kendall coll., 1900 and 1902); Lower Penobscot River (Kendall coll., 1902); Penobscot River and Bay (Evermann, 1904).

147. ***Liopsetta putnami*** (*Gill*). "SMOOTH FLOUNDER"; SMOOTHBACK FLOUNDER.

*Range*.—Cape Cod to Labrador.

MAINE.—Coves and rivers (Williamson, 1832); Maine (Gill, 1873, and Kendall, 1908); Casco Bay (U. S. N. M.,



1873); Portland and Bucksport (U. S. N. M., and Bean, 1879 and 1881); Belfast (Jordan & Evermann, 1898*a*); Freeport River and Casco Bay (Kendall coll., 1892, 1898, 1899 and 1900); Wolf's Neck, Freeport (Pettengill coll., 1900); Penobscot River and Bay (Evermann, 1904).

148. **Glyptocephalus cynoglossus** (*Linnaeus*).  
FLUKE; CRAIG FLUKE; "SOLE".

*Range*.—Northern seas in deep water.

MAINE.—Maine (Gill, 1873); Eastport (Goode & Bean, 1896, and Kendall, 1908).

#### LOPHIIDÆ. THE ANGLERS.

149. **Lophius piscatorius** *Linnaeus*. "MONK-FISH"

*Range*.—North Atlantic, both coasts, south to Cape Hatteras and Barbadoes.

MAINE.—Owl's Head and other bays (Williamson, 1832); Maine (Storer, 1846, 1855 and 1867*a*, Holmes, 1862, Gill, 1873, and Kendall, 1908); Eastport (U. S. N. M., 1872, and Kendall coll., 1893); Casco Bay (Lee, 1885); Small Point (Kendall coll., 1896); Wolf's Neck, Freeport (Pettengill coll., 1900); White Head Mud and Saco Bay (*vide*, Norton).\*

\*Explanations of abbreviations and methods of citation of records are given at pages 5 and 6 of this catalogue. Other abbreviations used are P. S. N. H., meaning Portland Society of Natural History, B. S. N. H., meaning Boston Society of Natural History, Me. S. and S. F. Reports, meaning Maine Sea and Shore Fisheries Reports. Throughout the catalogue dates included in the citations of records refer to the bibliography and records which close the paper, thus referring the reader to original authorities. During the progress of printing a few authentic records have been added, where the fixing of dates have been impossible; these appear only under the species affected by them and are not referred to in the list of records.

ADDENDA.

GOTTIDÆ.

**Artediellus atlanticus.** *Jordan & Evermann.*

*Range.*—Known from Massachusetts Bay.

MAINE.—Off Casco Bay in forty fathoms and off Monhegan in sixty fathoms (Bigelow, 1914).

For additional stations of *Raia erinacea*, *Osmerus mordax*, *Gasterosteus aculeatus*, *Siphostoma fuscum*, *Tautoglabrus adspersus*, *Cyclopterus lumpus*, *Lycenchelys verrillii*, *Zoarces anguillaris*, *Ulvaria subbifurcata*, *Myoxocephalus octodecemspinosus*, *Hemitripterus americanus*, *Sebastes marinus*, *Aspidophoroides monopterygius*, *Merluccius bilinearis* *Melanogrammus aeglefinus*, *Gadus callarias*, *Urophycis regius*, *Urophycis chuss*, *Enchelyopus cimbrius*, *Pseudopleuronectes americanus*, *Limanda ferruginea*, *Glyptocephalus cynoglossus*, *Lophius piscatorius*, see Bigelow, 1914.

## GEOGRAPHICAL DISTRIBUTION OF THE FRESH- WATER FISHES IN MAINE.

### Peculiarities of the Natural Distribution of the Species of Fresh-water Fishes of Maine.

In a study of the problem of geographical distribution of the species of fishes occurring in Maine, more than the State should be taken into consideration.

The probable eastern limit of most of the species of fresh-water fishes occurring in Maine is the sea bounding New Brunswick and Nova Scotia. How closely related this region is to the St. Lawrence is not definitely known, and how much farther north some of them extend cannot be known until the region north of the St. Lawrence is studied. The Appalachian Mountains on the west form a more or less definite line of demarkation. There are some species immediately west of these mountains that are not found east of them, and a very few east have not been recorded from the west side. There are also some very wide gaps in the distribution of some species which future investigation may more or less completely fill, and there are some of very extensive distribution as well as some apparently more or less isolated occurrences.

In general it may be said that the characteristic fishes are boreal, but the State is to some extent in a transition area, where northern and southern forms more or less overlap; yet not wholly in it but at one end as it were.

From the accompanying table, it may be seen that the majority of Maine species have a wide range of distribution.

Of the 39 species that may be considered purely fresh water, there are 26 recorded as occurring in the Great Lakes and inflowing streams; 24 in the St. Lawrence River and its tributaries, not counting some closely related if not identical species; 17 that are found further south in the eastern Appalachian slope drainage, even as far south as Florida. There are also 30 species recorded as common to New Brunswick and Maine.



COMPARATIVE TABLE OF RECORDS OF DISTRIBUTION SHOW-  
ING THE SPECIES COMMON TO THE GREAT LAKES,  
VERMONT, ST. LAWRENCE RIVER BASIN, SOME  
OF THE STATES OF SOUTH ATLANTIC  
SLOPE, AND NEW BRUNSWICK.

MAINE FRESH-WATER FISHES.	Great Lakes.	Atlan- tic Slope.	St. Law- rence River Basin.	Ver- mont.	New Brun- swick.
1. Ameiurus nebulosus	x	x	x	x	x
2. Erimyzon oblongus	x	x	x	x	x ?
3. Catostomus catostomus	x		x	x	x
4. Catostomus commersonii	x	x	x	x	x
5. Pimephales anuli					?
6. Chrosomus erythrogaster	x		x		x
7. Semotilus bullaris	x	x	x	x	x
8. Semotilus atromaculatus	x	x	x	x	x ?
9. Leuciscus carletoni					x ?
10. Phoxinus neogæus	x				x
11. Abramis crysoleucas	x	x	x	x	x
12. Notropis kendalli					
13. Notropis bifrenatus		x			
14. Notropis cornutus	x	x	x	x	x
15. Rhinichthys atronasmus	x	x	x	x	x
16. Couesius plumbeus	x		x	x	x
17. Anguilla rostrata	x	x	x	x	x
18. Coregonus quadrilateralis	x		x	x	x
19. Coregonus labradoricus	x		x	x	x
20. Coregonus stanleyi			•		?
21. Salmo sebago			†		x
22. Salvelinus namaycush	x		x	x	x
23. Salvelinus fontinalis	x	x	x	x	x
24. Salvelinus oquassa					
25. Salvelinus aureolus			†		
26. Osmerus mordax			x	x	x
27. Osmerus abbottii					
28. Osmerus spectrum					
29. Fundulus diaphanus	x		x		x
30. Esox reticulatus	x	x	x	x	x
31. Eucalia inconstans	x		x	x	x
32. Pungitius pungitius	x	x			x
33. Gasterosteus atkinsii					x
34. Lepomis auritus	x	x			x ?
35. Lepomis gibbosus	x	x	x	x	x
36. Perca flavescens	x	x	x	x	x
37. Morone americana		x			x
38. Cottus gracilis	x		x	x	x
39. Lota maculosa	x		x	x	x

\*This species occurs in Chateaugay Lake in New York, in St. Lawrence River Basin.

†A closely related species occurs in some waters in Quebec.

RECORDED NATURAL DISTRIBUTION OF NATIVE FRESH-  
WATER FISHES OF MAINE BY PRINCIPAL RIVER  
BASINS EXAMINED BY THE BUREAU  
OF FISHERIES.

MAINE FRESH-WATER FISHES.	St. John.									
	Presumpscot.	Royals.	Androscoggin.	Kennebec.	Penobscot.	Union.	St. Croix.	Aroostook.	Fish River.	St. Francis. Allagash above the falls.
1. Ameiurus nebulosus	x		x	x	x	x	x		x	x
2. Erimyzon oblongus	x									
3. Catostomus catostomus			x		x		?		x	x
4. Catostomus commersonii	x	x	x	x	x	x	x		x	x
5. Pimephales anuli					x				x	
6. Chrosomus erythrogaster		x		x	x				x	
7. Semotilus bullaris	x	x	x	x	x	x	x		x	x
8. Semotilus atromaculatus		x	x	x	x	x			x	x
9. Leuciscus carletoni					x				x	
10. Phoxinus neogæus			x		x				x	x
11. Abramis crysoleucas	x		x	x	x		x		x	
12. Notropis bifrenatus	x									
13. Notropis kendalli					x				x	
14. Notropis cornutus	x	x	x	x	x	x	x		x	x
15. Rhinichthys atronasus	x	x	x	x	x		x		x	x
16. Coesius plumbeus	x	x	x	x	x				x	x
17. Anguilla rostrata	x	x	x	x	x		x			
18. Coregonus quadrilateralis									x	x
19. Coregonus labradoricus	x			x		x			x	x
20. Coregonus stanleyi									x	x
21. Salmo sebago	x				x	x	x			
22. Salvelinus namaycush			x	x	x		x		x	x
23. Salvelinus fontinalis	x	x	x	x	x	x	x	x	x	x
24. Salvelinus oquassa			x		x					
25. Salvelinus aureolus						x				
26. Osmerus mordax	x	x	x	x	x	x	x			
27. Osmerus spectrum				x						
28. Osmerus abbottii				x						
29. Fundulus diaphanus			x	x	x	x	x		x	
30. Esox reticulatus	x	x	x	x	x	x	x			
31. Eucalia inconstans				x						
32. Pungitius pungitius	x	x			x		x		x	
33. Gasterosteus atkinsii			x	x	x	x	x		x	x
34. Lepomis auritus			x	x	x					
35. Lepomis gibbosus	x		x	x			x			
36. Micropterus dolomieu*	x	x	x	x	x		x			
37. Perca flavescens	x		x	x	x	x	x			x
38. Morone americana	x		x	x	x		x			
39. Cottus gracilis	x		x		x			x	x	x
40. Lota maculosa	x		x	x	x				x	x

\*The black bass has become so well established and so widespread that it is here considered to be a Maine fish.

ALPHABETICAL LIST AND DEFINITIONS OF THE  
LOCALITIES FROM WHICH FISHES ARE  
RECORDED IN THIS CATALOGUE.

*Alamoosook Lake*.—Tributary Penobscot River, Hancock County, Orland; through Orland, Eastern or Narramissic River.

*Allagash River*.—Tributary St. John River, rising in Chamberlain Lake, flowing north, including a series of large lakes in its course.

*Allagash River Lakes*.—Chamberlain, Eagle, Churchill, Umsaskis, Long and Round Lakes.

*Ambajejus Falls*.—Just above Ambajejus Lake, West Branch Penobscot River.

*Androscoggin River*.—Rises in Umbagog Lake, one of the Rangeley Lakes, flowing through New Hampshire and western Maine, joining Kennebec waters at Merrymeeting Bay, Sagadahoc County.

*Aroostook River*.—Tributary St. John, flowing east through Aroostook County, joining St. John in New Brunswick.

*Auburn*.—On Androscoggin River, Androscoggin County.

*Auburn Lake*.—Tributary Androscoggin, Androscoggin County, Auburn.

*Bagaduce River*.—An arm of Penobscot Bay, east of Castine, in Hancock County, the head in Sedgwick.

*Bald Head*.—A rocky headland, Phippsburg, one mile west of Small Point.

*Bangor*.—Penobscot County, on Penobscot River. Head of marine navigation.

*Bay of Fundy.*—Large bay between eastern Maine and New Brunswick and Nova Scotia.

*Bear Brook.*—Tributary Long Lake, Cumberland County, Harrison.

*Bear River.*—Tributary Androscoggin River, Oxford County, Newry.

*Beau Lake.*—Expansion of St. Francis River, between Maine and New Brunswick, northern Aroostook County.

*Belfast.*—On west side of Penobscot Bay, Waldo County.

*Belfast Bay.*—At east side of Penobscot Bay, Belfast, Waldo County.

*Belgrade.*—On Belgrade Lakes, Kennebec County.

*Biddeford Pool.*—An inlet of sea in Biddeford, York County, below the mouth of Saco River; Fletcher's Neck forms the south and east barriers.

*Big Lake.*—One of the western St. Croix chain, receiving waters of Grand Lake through Grand Lake Stream, Washington County.

*Bill Fish Brook.*—Small tributary East Branch of Penobscot River about one mile below Matagamon Lake.

*Birch Brook.*—Tributary Cross Lake, Aroostook County.

*Bluehill.*—On east side of Bluehill Bay, Hancock County.

*Bluehill Bay.*—West of Mt. Desert, and east of Bluehill, Brooklin and north of Swan's Island, Hancock County.

*Boone Island.*—Off York County.

*Boothbay.*—Town and bay of same name near mouth of Kennebec River, or between the mouths of Sheepscot and Damariscotta Rivers, Lincoln County.

*Bowlin Brook.*—Outlet Bowlin Pond.

*Bowlin Pond.*—Tributary East Branch Penobscot River Penobscot County.

*Boyden Lake*.—Flows into Passamaquoddy Bay, Washington County.

*Bradley*.—East side Penobscot River, eleven miles northeast of Bangor, Penobscot County.

*Branch Pond*.—Tributary Union River, Hancock County, Ellsworth.

*Bristol*.—Between mouth of Damariscotta River and Muscongus Bay, Lincoln County.

*Brooklin*.—Between Sedgwick and Bluehill Bay, at eastern entrance of Eggemoggin Reach.

*Brooksville*.—Between Sedgwick and Penobscot Bay, western entrance to Eggemoggin Reach, Hancock County.

*Brunswick*.—On Androscoggin River and Casco Bay, Cumberland County.

*Bucksport*.—On east side of Lower Penobscot River, Hancock County.

*Bustin's Island*.—Casco Bay, near mouth of Freeport River, off southwest point of Bibber's Island.

*Calais River*.—Same as St. Croix River.

*Cambridge River*.—Tributary Umbagog Lake, Oxford County, Upton.

*Campobello*.—Island, New Brunswick, Passamaquoddy Bay, near Eastport.

*Cape Elizabeth*.—Marks outer western limit of Casco Bay, Cumberland County.

*Cape Porpoise*.—York County, Kennebunkport.

*Cape Rosier*.—Upper east side of Penobscot Bay, opposite Islesborough.

*Carter Brook*.—Tributary Harraseeket River, Cumberland County, Freeport.

*Carry Ponds*.—Tributary Kennebec River, Somerset County.



*Casco Bay*.—A large bay limited on the west by Cape Elizabeth, Cumberland County, and on the east by Cape Small Point, Sagadahoc County.

*Castine*.—West side of mouth of Penobscot River, Hancock County.

*Cathance River*.—Tributary Kennebec River, or Merry-meeting Bay, Sagadahoc County, Bowdoinham.

*Cathance Stream*.—Outlet of Cathance Lake, tributary Dennys River, Washington County.

*Center Harbor*.—Brooklin, Hancock County.

*Chaffin Pond*.—Tributary Sebago Lake, Cumberland County, North Windham.

*Chamberlain Lake*.—Head of Allagash River; also flowing through Telosmis, Telos and Webster Lakes and Webster Brook into East Branch of Penobscot River.

*Chandler River*.—Small stream in Washington County flowing through Columbia Falls, Centerville and Jonesborough into Mason Bay.

*Chepednic Lake*.—Grand Lake, East Branch St. Croix, same as Chepednecticook.

*Cherryfield*.—On Narraguagus River, Washington County.

*Chickavaka Lake*.—Knox County, Rockland.

*Churchill Lake*.—One of the Allagash River Lakes.

*Clapboard Island*.—Near Falmouth shore, Casco Bay.

*Clearwater Pond*.—Tributary Kennebec River, through Sandy River, Franklin County, Industry.

*Cobbosseecontee Lake*.—Tributary Kennebec River through Cobbosseecontee River, Kennebec County, Monmouth.

*Cochnewagan Lake*.—Tributary Cobbosseecontee Lake, Kennebec County, Winthrop.

*Cod Ledges*.—A rocky ridge having an average depth of seven fathoms of water, beginning about three miles east of Cape Elizabeth lights and extending northeastward about four miles. Cumberland County.

*Craig's Pond*.—Tributary Alamoosook Lake, through Craig's Brook, Hancock County, East Orland.

*Cranberry Isles*.—South of Mount Desert Island, Hancock County.

*Crooked River*.—Tributary Sebago Lake, Cumberland County, joining Songo River at Songo Lock; outlet Songo Pond, Albany, Oxford County.

*Cross Island*.—East of mouth of Machias Bay, Cutler, Washington County.

*Cross Lake*.—One of the Eagle Lakes, tributary Fish River, and St. John, northern Aroostook County, Guerrette.

*Cross Lake Thoroughfare*.—Stream connecting Salmon Lake with Cross Lake, Aroostook County.

*Cross Rock Rapids*.—Rapids in St. John River, northern Aroostook County, St. Francis.

*Cumberland Mills*.—In Westbrook, situated at Ammoncong-in Falls on the Presumpscot River. Cumberland County.

*Cumberland and Oxford Canal*.—Referred to in the catalogue as *Old Canal Presumpscot*. A canal constructed 1828–1830, connecting Sebago Lake at "The Basin" with Portland Harbor at Fore River, Stroudwater.

*Cupsuptic*.—One of Rangeley Lakes, Franklin County.

*Cushman Pond*.—Tributary Saco River, Oxford County, Lovell.

*Daisy Brook*.—Outlet Daisy Pond.

*Daisy Pond*.—Tributary First Hurd Pond, Piscataquis County.

*Damariscotta*.—On Damariscotta River, Lincoln County.

*Damariscotta River*.—Lincoln County, Damariscotta.

*Debsconeag Lake*.—Tributary West Branch of Penobscot River, Piscataquis County.

*Deer Isle*.—Big and Little, in Hancock County, bounded on the north by Eggemoggin Reach, on the east by Jericho, and on the west by East Penobscot Bay; directly north of Isle au Haut.

*Dennys River*.—Outlet of Meddybemps Lake into Cobscook Bay, Washington County, Meddybemps, Charlotte and Dennysville.

*Dixmont*.—Southwest corner Penobscot County.

*Donnell's River*.—Outlet of Donnell's Pond into Sullivan River, Hancock County, Franklin.

*Duck Islands*.—South of Mt. Desert, and east of Swan's Island, Hancock County.

*Duck Pond*.—Tributary through Mill Brook, of Presumpscot River, Cumberland County, now known as Highland Lake, bounded by Westbrook, Windham and Falmouth.

*Dyer River*.—Tributary Sheepscot River, Lincoln County.

*Eagle Island*.—Casco Bay, Cumberland County, Harpswell.

*Eagle Lake*.—One of Allagash River Lakes, next below Chamberlain, Piscataquis County.

*Eagle Lakes*.—East Branch of Fish River Lakes, tributary St. John River, northern Aroostook County; include Long, Mud, Salmon, Bear, Cross, Square and Eagle Lakes.

*East Branch of Penobscot*.—Joins Penobscot River at Medway, Penobscot County, same as Matagamom River.

*East Branch of Royals River*.—Tributary Royals River, flowing through Durham and Pownal, commonly known as "The Branch", Androscoggin and Cumberland Counties.

*Eastern River*.—Same as Orland River, Hancock County.

*Eastern Schoodic Lakes*.—Tributary St. Croix River, same as East Branch Saint Croix River, Eastern Schoodic chain, etc., North Lake, Grand or Chepednecticook, First Lakes, etc., Aroostook and Washington Counties, near Vanceboro.

*East Machias*.—A town northeast of and adjacent to Machias, Washington County.

*East Machias River*.—Joins Machias River in Machias not far above Machias Bay, Washington County.

*Eastport*.—On Moose Island, near Cobscook Bay; most eastern town in State, Washington County.

*Ellsworth*.—On Union River, Hancock County.

*Farmington*.—On Sandy River, tributary Kennebec River, Franklin County.

*Fiddlers Reach*.—Narrow place in Kennebec River between the northeast point of Phippsburg, and Daubling Point on the Island of Arrowsic, Sagadahoc County.

*First Debsconeag Lake*.—See Debsconeag Lakes.

*First Hurd Pond*.—Tributary West Branch Penobscot River, near Debsconeag Lakes and "Deadwater", Piscataquis County.

*Five Islands*.—Casco Bay, Cumberland County.

*Flag Island*.—Casco Bay, Cumberland County, Harpswell.

*Floods Pond*.—Tributary Union River, Hancock County, Otis.

*Freeport*.—On Harraseeket River, Cumberland County.

*Freeport River*.—Same as Harraseeket River.

*Frenchman's Bay*.—East of Mount Desert, West of Gouldsborough.

*Gardner's Pond*.—Tributary Eastern River, Lincoln County, Wiscasset.

*Georges Banks.*—Between Cape Cod, Mass., and Cape Sable, N. S.

*Georges River, or St. Georges River.*—Waldo and Knox Counties, emptying into St. Georges Bay.

*Georgetown.*—Between mouths of Kennebec (Sagadahoc) and Sheepscot Rivers, southwest of Boothbay.

*Glasier Lake.*—Lower of the St. Francis River lakes.

*Glenburn.*—Eight and one-half miles northwest of Bangor, Penobscot County; Pushaw Pond.

*Goddard Brook.*—Tributary Square Lake; Eagle Lakes, Aroostook County.

*Goose Islands.*—Casco Bay, Cumberland County, Harpswell.

*Gott's Island.*—Between Swan's Island and Cranberry Islands, south of Mt. Desert.

*Grand Lake.*—Tributary West Branch St. Croix River, Washington County.

*Grand Lake Stream.*—Outlet of Grand Lake, Washington County, Hinkley.

*Great Brook.*—Tributary Green Lake, Hancock County, Otis.

*Great Pond.*—One of the Belgrade Lakes, Kennebec County, Belgrade.

*Great Spring Brook.*—Tributary East Branch Penobscot River, one mile below Bowlin Falls, Penobscot County.

*Green Lake.*—Tributary Union River, Hancock County, Green Lake, etc.

*Gulf of Maine.*—The great gulf, south of Maine, between Cape Cod, Mass., and Cape Sable, N. S.

*Gun Point Ice Company's Pond.*—Casco Bay, Cumberland County, Great Island, Harpswell.



*Hale Pond*.—Affluent west Branch of Penobscot River, Piscataquis County.

*Hampden*.—West side of Penobscot River below Bangor, Penobscot County.

*Harlow Brook*.—Tributary Lake Auburn (?) Auburn.

*Harpwell*.—A long neck jutting southwest in Casco Bay, dividing it into Casco Bay proper on the west side, and Quahog Bay on the east side.

*Harraseeket River*.—Same as Freeport River, an arm of Casco Bay, Cumberland County, Freeport. Tributary Brooks are Carter, Hillside, Frost Gulley or Mast Landing, Porter's Landing and Spar Creek.

*Harrington River*.—Rises in Cherryfield and Columbia, Washington County, flowing into Narraguagus Bay.

*Harrison*.—On Long Lake, Sebago system, Cumberland County.

*Harvey Brook*.—Rises in Pownal, entering Casco Bay in Freeport, Cumberland County.

*Hay Brook*.—Tributary to Thoroughfare connecting Matagamsis and Matagamon Lake, Piscataquis County.

*Herring Gut*.—Western mouth St. Georges River to Mosquito Island, between Port Clyde and Georges Islands.

*High Gully Brook*.—Tributary Maquoit Bay, Casco Bay, Brunswick.

*Hillside Brook*.—Tributary Harraseeket River, Cumberland County, Freeport.

*Hosmer Pond*.—Penobscot Bay, Knox County, Rockport.

*Hurd Pond*.—Same as First Hurd Pond.

*Indian Pond*.—Tributary Sebasticook River, Somerset County, St. Albans.

*Industry*.—On Clearwater Pond, tributary Sandy River, a tributary Kennebec, Franklin County.

*Isle au Haut*.—A large, high island; the southeastern boundary of east Penobscot Bay. That part of the latter adjoining, between the island and Vinal Haven, or Fox Island, and its approaches is sometimes called *Isle au Haut*, or *Isle of Holt Bay*. The island is bounded on the east by Jericho Bay, and to the north it is separated from Deer Isle by a rocky, island-studded passage known as Merchant's Row.

*Isle of Holt*.—Same as *Isle au Haut*.

*Islesborough*.—Long Island, Upper Penobscot Bay, Waldo County.

*Jaquish Island*.—In Casco Bay, about two miles southeast of South Harpswell.

*Joe True Brook*.—Branch of Harvey Brook, Cumberland County, Freeport.

*Jonesport*.—On Mooseabec Reach, between Englishman's and Pleasant Bays, Washington County.

*Katahdin Brook*.—Tributary Penobscot River, West Branch, Piscataquis County, on west slope of Katahdin Mountain, entering upper end Pokwokamus Deadwater.

*Keazer's Lake or Pond*.—Tributary Saco River, Oxford County, Lovell.

*Kenduskeag River*.—Tributary Penobscot River at Bangor.

*Kennebago Lake*.—Tributary of Mooselucmeguntic.

*Kennebago Stream*.—Tributary Rangeley Stream, outlet Kennebago Lake, Franklin County.

*Kennebec River*.—Outlet of Moosehead Lake; second largest river in Maine.

*Kittery*.—Mouth Piscataqua River, York County; most western coast town in the State.

*Lake Auburn*.—Tributary Androscoggin River, Androscoggin County, Auburn.

*Lake Richardson.*—One of the Rangeley chain, same as Welokenebacook.

*Leweys Lake.*—West Branch of St. Croix. Most eastern of "Western Schoodic Chain," Washington County, Me., and Princeton, N. B.

*Lincolnville.*—West side Penobscot Bay, south side Duck Trap Harbor.

*Little Beaver Pond.*—Tributary Rainbow Lake, Piscataquis County.

*Little Goddard Brook.*—Tributary Square Lake, Aroostook County.

*Little Pushaw Pond.*—Tributary Penobscot River, Penobscot County, Corinth.

*Little Sebago Lake.*—Tributary Presumpscot River, Cumberland County, North Windham and Gray.

*Little Spring Brook.*—Tributary Matagamon River on East Branch of Penobscot, Penobscot County, not far below Great Spring Brook.

*Long Pond.*—Same as Long Lake, tributary Sebago Lake, through Songo River.

*Lubec.*—South of Cobscook Bay and Eastport, Washington County.

*Lumbo Ledge.*—Fishing ground off southeastern part of Casco Bay.

*Lunkasoo Lake.*—Tributary East Branch Penobscot, Penobscot County, four miles below the Spring Brooks.

*Machias River.*—Rises in Machias Lakes, and enters Machias Bay at Machiasport, Washington County.

*Magurrowock Stream.*—Tributary St. Croix River, outlet to Magurrowock Lake, Washington County, Robbinston and Calais.

*Manchester Forks*.—Forks of Kennebec.

*Mann Brook*.—Tributary Green Lake, Hancock County, Dedham.

*Maranacook Lake*.—Tributary Cobbosseecontee Lake, Kennebec County, Winthrop.

*Matagamon Lake*.—Grand Lake or head waters of main Matagamon or East Branch of Penobscot River, Penobscot County.

*Matagamonsis Lake*.—Second Matagamon Lake, next lake above Matagamon Lake, Piscataquis County.

*Matagamon Thoroughfare*.—Connects Matagamonsis and Matagamon Lakes.

*Matinicus Island*.—Off mouth of Penobscot Bay, Knox County, about southeast of Metinic Island.

*Meadow Brook*.—A small stream connecting Boyden and Pennamaquan Lakes.

*Meddybemps Lake*.—Head waters of Dennys River, Washington County, Meddybemps.

*Medomac River*.—Same as Medomak River, Knox and Lincoln Counties, entering Muscongus Bay.

*Medomak River*.—Same as Medomac River.

*Merrymeeting Bay*.—Bay formed by junction of Kennebec, Androscoggin, and several minor rivers, Sagadahoc County.

*Metic Island*.—Off western entrance to Penobscot Bay, Knox County, St. George.

*Middle Bay*.—Casco Bay, between Mere Point and Harpswell.

*Monhegan Island*.—Off Muscongus Bay, Lincoln County.

*Mooseabec Light*.—Southeast of Jonesport, Washington County.

*Moosehead Lake*.—Head waters of Kennebec River, Somerset and Piscataquis Counties; largest lake in State.

*Moosehucmaguntic Lake*.—Second Rangeley Lake, Franklin County.

*Moose Pond*.—Tributary Sebasticook River, Somerset County, Hartland.

*Morgan Bay*.—Bluehill, Hancock County.

*Mount Desert*.—Between Union River, Bluehill and Frenchman's Bays, Hancock County.

*Mount Desert Region*.—Union River Basin.

*Mount Desert Rock*.—About twenty miles southward of Mount Desert.

*Mousam River*.—Rises in Mousam Pond, enters the sea between Kennebunk and Crescent Beaches, York County.

*Mud Brook*.—Tributary of Mud Lake, of Eagle Lakes, Aroostook County.

*Mud Lake*.—Same as Salmon Lake or Bear Lake, Eagle Lakes chain, Aroostook.

*Muddy River*.—Northern tributary Sebago Lake, Cumberland County.

*Muscongus Bay*.—Between Pemaquid Point, Lincoln County, and St. George, Knox County. See Wescongus.

*Nahmakanta Stream*.—Connects Nahmakanta Lake with Pemadumcook Lake, Piscataquis County.

*Narraguagus River*.—Rises in Narraguagus Lake, entering Narraguagus Bay at Milbridge, Washington County.

*New Harbor*.—In town of Bristol, near Pemaquid, Lincoln County.

*New Meadows River*.—A tidal arm of Casco Bay, between West Bath, Sagadahoc County, and Brunswick, Cumberland County.



*North, Bridgton.*—On Long Lake, Sebago system, Cumberland County.

*Northport.*—West side of Upper Penobscot Bay, Waldo County.

*Norway Lake.*—Same as Pennesseewassee Lake, tributary Little Androscoggin River, Norway, Oxford County.

*Old Canal Presumpscot.*—See Cumberland and Oxford Canal.

*Old Orchard.*—Beach in York County, east of Saco River.

*Oquassa Lake.*—Same as Oquossoc Lake.

*Oquossoc Lake.*—Upper Rangeley Lake, Franklin County.

*Orland.*—On Alamoosook Lake and Orland River, Hancock County.

*Orland Falls.*—On Orland River, Hancock County.

*Orland River.*—Outlet Alamoosook Lake into Penobscot River, Hancock County, Orland.

*Orrington.*—East side of Penobscot River, opposite Hampden, Penobscot County.

*Orr's Island.*—Casco Bay, Cumberland County, Harpswell.

*Owl's Head.*—West side Penobscot Bay, South Thomaston, Knox County, at entrance to Rockland Harbor.

*Panther Pond.*—Tributary Sebago Lake, through Jordan River, Cumberland County, Raymond.

*Passamaquoddy Bay.*—Most eastern Maine bay, west part of Bay of Fundy, chiefly in New Brunswick. In Maine washes the shores of Lubec, Eastport, Perry and Robbinston.

*Patten Bay.*—East side of mouth of Union River, Surry, Hancock County.

*Patten River.*—Outlet of Patten Pond into Union River. Hancock County, Ellsworth.

*Patten Stream.*—Same as Patten River.

*Pemaquid*.—The southeastern promontory of Bristol, between Johns and Muscongus Bays, Lincoln County, Bristol.

*Pembroke*.—On western side of Cobscook Bay, Washington County.

*Pennamaquan Lake*.—Empties into Cobscook Bay through Pennamaquan River, Washington County, Perry.

*Pennamaquan River*.—Outlet Pennamaquan Lake.

*Penobscot*.—East side of mouth of Penobscot River, Hancock County.

*Penobscot River*.—Largest river in the State; four principal tributaries are the West Branch, East Branch, Mattawamkeag and Piscataquis Rivers.

*Petit Manan Island*.—Directly south of Petit Manan Point, town of Steuben, western Washington County.

*Pettengill Pond*.—Tributary Sebago Lake, Cumberland County, North Windham.

*Pierce Pond*.—Tributary Kennebec River, Somerset County.

*Pine Point*.—Scarborough, Cumberland County.

*Piscataqua River*.—Boundary river between Maine and New Hampshire, same as Salmon Falls River, York County.

*Piscataquis River*.—Tributary Penobscot River at Howland.

*Pleasant Lake*.—Tributary Scraggly Lake, Washington County, West Branch of St. Croix.

*Pokwokamus Deadwater*.—Dead water of West Branch of Penobscot River, in Katahdin region, Piscataquis County.

*Pocumpus Lake*.—Between Sysladobsis and Grand Lake, Washington County.

*Pocumpus Thoroughfare*.—Thoroughfare between Sysladobsis and Pocumpus Lake, Washington County.

*Pond Island.*—Mouth of Kennebec or Sagadahoc River.

*Porter's Landing.*—On Harraseeket River, an inlet of Casco Bay, Cumberland County, Freeport.

*Porter's Landing Brook.*—Tributary Harraseeket River at Porter's Landing.

*Portland.*—On Casco Bay, Cumberland County.

*Presumpscot River.*—Outlet of Sebago Lake and its system of lakes and ponds, emptying into Casco Bay, between Portland and Falmouth, Cumberland County.

*Prospect.*—West side of Penobscot River, opposite Bucksport, Waldo County.

*Pushaw Pond.*—Tributary Penobscot River, Penobscot County, Glenburn or near Old Town.

*Ragged Island.*—The southernmost of the two principal Matinicus Islands, known also as South Matinicus and Criehaven.

*Rainbow Lake.*—A remote lake in a tributary system of the West Branch of Penobscot River, Piscataquis County.

*Rainbow Lake Stream.*—Outlet Rainbow Lake.

*Rangeley Lake.*—Same as Oquossoc Lake, the upper lake of the Rangeley Lakes.

*Rangeley Lakes.*—Head waters of Androscoggin River, the main chain consisting of Oquossoc, Mooselucmaguntic, Molechunkamunk, Welokenebacook and Umbagog, Franklin and Oxford Counties.

*Rangeley Stream.*—Connecting Oquossoc with Mooselucmaguntic Lake.

*Rankin Rapids.*—Rapids below Cross Rock in Upper St. John, Aroostook County, near St. Francis.

*Rapid River.*—Connecting Welokenebacook and Umbagog Lakes, Oxford County.

*Rattlesnake Pond*.—Tributary to Panther Pond, Cumberland County, Raymond.

*Reed's Lake*.—Same as Green Lake or Reed's Pond.

*Reed's Pond*.—Same as Green Lake or Reed's Lake.

*Richardson Lake*.—Same as Welokenebacook Lake, Rangeley Lakes, Oxford County.

*Richmond's Island*.—Off Bowery Beach, Cape Elizabeth, Cumberland County.

*Robbinston*.—On Passamaquoddy Bay, Washington County.

*Rockland*.—On Penobscot Bay, Knox County.

*Rockland Harbor*.—Same as Rockland.

*Round Lake*.—Or Round Pond, sometimes on maps as Square Pond, Allagash system; lowermost lake, Aroostook County.

*Round Pond*.—An arm of Muscongus Bay, Bristol.

*Royals River*.—Tributary Casco Bay, at Yarmouth.

*Sabattus Pond*.—Tributary Androscoggin River, Androscoggin County, Wales.

*Saco*.—Opposite Biddeford, east side of mouth of Saco River, York County.

*Saco Bay*.—A slight indentation of the coast line, marked on the northeast by Cape Elizabeth and the southwest by Wood Island and Fletcher's Neck, in Biddeford; washes the shores of Biddeford, Old Orchard, Scarborough and Cape Elizabeth, receiving the waters of Saco and several minor rivers.

*Saco River*.—Rises in White Mountain of New Hampshire, flows through Maine, entering the ocean at Saco and Biddeford, York County.

*St. Francis Lakes*.—Expansion of St. Francis River, bounding Maine, Quebec and New Brunswick chiefly; Aroostook

County bounded by Pohenagamook, Beau and Glasier Lakes.

*St. Francis River.*—Tributary St. John River, boundary river of Maine, New Brunswick and Quebec; extreme northern Aroostook County.

*St. Croix River.*—Rises by two branches east and west in large systems of lakes respectively, forming east boundary of Maine and New Brunswick, flowing into Passamaquoddy Bay.

*St. Georges River.*—Rises in St. George Lake or Pond, and flows into St. Georges Bay, between Knox and Lincoln Counties.

*Salmon Lake.*—One of the East Branch of Fish River, Eagle Lakes, Aroostook County. Same as Mud or Bear Lake.

*Sand Bank Brook.*—Tributary East Branch of Penobscot about one mile below Hunt Rapids, Penobscot County.

*Sandy Point.*—West side Penobscot River near mouth, Stockton Springs, Waldo County.

*Sandy River.*—Tributary Kennebec River in Franklin County.

*Sargentville.*—On Penobscot Bay, Hancock County.

*Schoodic Grand Lake.*—Same as Grand Lake of West Branch of St. Croix, Washington County, Hinkley.

*Schoodic Lake.*—Near Brownville, Penobscot County; tributary Penobscot River.

*Schoodic Lakes.*—Series of lakes between Washington County and New Brunswick, head of East Branch of St. Croix River.

*Schoodic Point.*—Gouldsborough, Hancock County.

*Schoodic Island.*—Off Schoodic Point.

*Searsport.*—On Searsport Harbor, west side of upper Penobscot Bay, Waldo County.



*Scraggly Lake*.—Tributary Junior Lake, Penobscot County, near Washington County line, flowing thence into Sysladobsis Lake.

*Sebago Lake*.—Head waters of Presumpscot River, second largest lake in State, receiving the waters of numerous other lakes and ponds, Cumberland County.

*Sebasticook River*.—Outlet of Sebasticook Lake, Moose and Indian Ponds, Somerset County; tributary Kennebec River.

*Sebec Lake*.—Tributary Penobscot River, Penobscot County, through Piscataquis River.

*Sebec Pond*.—Same as Sebec Lake.

*Sebec River*.—Outlet of Sebec Lake, tributary to Piscataquis River.

*Sebois River*.—Tributary East Branch of Penobscot River, at head of Wessataquoik Deadwater, outlet of Scraggly Lake, Penobscot County.

*Second Hurd Pond*.—Tributary first Hurd Pond.

*Seguin Island*.—Off mouth Kennebec River, Sagadahoc County.

*Sheepscot Bay*.—A deep fjord like bay between Georgetown, Sagadahoc County, and Southport, Lincoln County, east of the Kennebec entrance.

*Sheepscot River*.—Heading principally in Sheepscot Grand Pond, and emptying into Sheepscot Bay near Southport, Lincoln County.

*Ship Pond*.—Tributary Sebec Lake, Penobscot County, Ellitsville.

*Ship Pond Stream*.—Connecting Ship Pond and Sebec Lake.

*Sidney*.—On Messalonskee Lake and Kennebec River, Kennebec County.

*Simpson Brook*.—Tributary Androscoggin River, Cumberland County, Brunswick.

*Skiff Lake*.—A New Brunswick lake tributary to First Lake of Schoodic chain.

*Skowhegan*.—On Kennebec River, Somerset County.

*Stillwater River*.—Outlet of Pushaw Pond and other waters, tributary Penobscot River, Penobscot County.

*Stockton Springs*.—West side of mouth of Penobscot River, Waldo County.

*Small Point*.—Eastern cape or headland of Casco Bay. Same as Phippsburg, Sagadahoc County.

*Smith Brook*.—Outlet of Haymoek Lake, tributary of Eagle Lake, of Allagash River, Piscataquis County.

*Somes Sound*.—A long estuary in south side Mt. Desert Island.

*Songo River*.—Outlet of Long Lake, tributary Sebago Lake, Cumberland County.

*Southard's Pond*.—Small tributary of Hale Pond, a tributary of West Branch Penobscot River, Piscataquis County.

*South Brewer*.—East side Penobscot River, opposite Bangor, Penobscot County.

*South Fork of East Branch of Royal River*.—Tributary of "The Branch", almost wholly in Freeport, known in various parts of its course by different names, as Davis Mill Stream, Collins Mill Stream, etc.

*Square Lake*.—One of the Fish River Eagle Lakes, next above Eagle Lake, Aroostook County.

*Square Lake Thoroughfare*.—Connecting Cross Lake and Square Lake, Aroostook County.

*Sturdivant's Island*.—Near the Cumberland shore, Casco Bay.

*Sullivan River*.—A long, narrow arm of Frenchman's Bay,

receiving the waters of several groups of ponds, Hancock County, Sullivan.

*Surry*.—East side of mouth of Union River, Hancock County.

*Swan Lake*.—Tributary Lower Penobscot River, Waldo County, Swanville, near Belfast.

*Sysladobsis Lake*.—One of the western St. Croix system, Washington County, otherwise known as Dobsis or Dobsy.

*Sysladobsissis Lake*.—Little Sysladobsis, same as Little Dobsis or Little Dobsy.

*Taylor Pond*.—Tributary Androscoggin River, Androscoggin County, Auburn.

*Telos Lake*.—Connected with Chamberlain Lake by thoroughfares, as Telosmis or Round Pond, and with Webster Lake by a stream called "The Cut-Out", Piscataquis County.

*Thomas Pond*.—Tributary Sebago Lake, Cumberland County, South Casco.

*Thompson Pond*.—Tributary Little Androscoggin River, Oxford, Cumberland and Androscoggin Counties, Oxford, Otisfield and Poland.

*Toddy Pond*.—Tributary Alamoosook Lake, Hancock County, Bluehill, Penobscot and Orland.

*Tomah Stream*.—Tributary West Branch of St. Croix River, Washington County.

*Trip Pond*.—Tributary Little Androscoggin River, Androscoggin County, Poland.

*Tunk Lake*.—Same as Tunk Pond, tributary Gouldsborough Bay through Tunk Stream, Hancock County, Tunk Pond Station.

*Tunk River*.—Same as Tunk Stream, outlet of Tunk Lake.

*Umbagog Lake*.—Lowest or southernmost of Rangeley Lakes chain, head of Androscoggin River, Oxford County, Maine, and Coos County, New Hampshire.

*Umbagog System of Lakes*.—Same as Rangeley Lakes.

*Umsaskis Lake*.—One of the Allagash River series next below Churchill Lake, Aroostook County.

*Union River*.—Rising by three branches, East Branch in Spectacle Pond, Middle Branch in ponds in Aurora, and the main branch or West Branch, in a group of lakes in Great Pond Plantation, empties into Union River Bay, Hancock County.

*Varnum Pond*.—Tributary Sandy River, Franklin County, Farmington.

*Verona*.—On an island, at mouth of Penobscot River, south of Bucksport, Hancock County.

*Vinal Haven*.—The southernmost of two large islands in Penobscot Bay, originally known as the Fox Islands as named by Martin Pring, in 1603 (June 7). The Fox Islands divide Penobscot Bay into East and West Penobscot Bays. The islands belong to Knox County.

*Waldoboro*.—On Medomak River, Lincoln County.

*Wescongus River*.—Same as Muscongus River, flowing into Muscongus Bay, Lincoln County.

*Webster Lake*.—Tributary East Branch of Penobscot River, through Webster Brook into Matagamonsis, or Second Lake, Piscataquis County.

*West Bay*.—West part of Gouldsborough Bay, Hancock County, Gouldsborough.

*West Branch of St. Croix River*.—Draining Western Grand Lake system, tributary St. Croix River, Washington County.

*West Carry Pond*.—See Carry Ponds.

*West Gouldsborough*.—On easterly side of Frenchman's Bay, Hancock County.

*West Musquash Lake*.—One of the Western Grand Lake system, through West Musquash Stream emptying into Big Lake, Washington County, Talmadge.

*Whaleboat Island*.—Casco Bay, Cumberland County, Harpswell.

*White Head*.—An island in St. George, ten miles south of Rockland, at the southwestern entrance to Mussel Ridge Channel, on the southern passage to and from Rockland harbor. "The Mud", a local fishing ground, is a large tract of muddy bottom, in sixteen to twenty-one fathoms of water, and directly south of the island one mile distant.

*Wild River*.—Tributary Androscoggin River, rising in mountains of New Hampshire, and Oxford County, Maine.

*Wilton Pond*.—Same as Wilson Pond; tributary Sandy River, Franklin County, Wilton.

*Winkempaugh Brook*.—Tributary Branch Pond, Hancock County, Dedham.

*Winnegance Creek*.—A brackish tributary of the lower Kennebec River, between West Bath and Phippsburg, Sagadahoc County.

*Winterport*.—Lower Penobscot River, Waldo County.

*Wissataquoik Deadwater*.—East Branch of Penobscot River, between mouth of Wissataquoik River and mouth of Sebois River, Penobscot County, east Mount Katahdin region.

*Wissataquoik River*.—Rises on north slope of Katahdin Mountain; tributary of East Branch of Penobscot River, just above Hunt Rapids.

*Wolfs Neck*.—Point of land south side of Harraseeket River, Cumberland County, Freeport.

*Wood Island*.—Casco Bay, Sagadahoc County, near Small Point.

*York River*.—Rises in York Pond, flows into York Harbor, York County, York.

*Yellow Rock*.—Near Eastport, Washington County.



## BIBLIOGRAPHY AND RECORDS.

References with the authors' names appearing in small capitals are based upon published records. Those with the authors' names appearing in italics are based upon records heretofore unpublished. The species named in the various records are numbered and named in the nomenclature of the present catalogue, followed by the word "as" and the nomenclature of the author, or the label of the specimen.

---

1672. JOSSELYN, JOHN.

New England's Rarities Discovered. In Birds, Beasts, Fishes, Serpents and Plants of that Country. Together with the Physical and Chyrurgical Remedies wherewith the Natives constantly use to Cure their Distempers, Wounds and Sores. Also a perfect Description of an Indian squa, in all her Bravery; with a Poem not improperly conferr'd upon her. Lastly a Chronological Table of the most remarkable Passages in that Country amongst the English. Illustrated with Cuts. By John Josselyn, Gent.

London, Printed for G. Widdowes at the Green Dragon in St. Paul's Churchyard, 1672.

The list of fishes, a nominal catalogue in the vernacular of the period, begins at page 23, under the caption, "Thirdly, of Fishes." A sub-heading gives the nature of the list in the following terms: "A Catalogue of Fish, that is, of those that are to be seen between the English Coast and America, and those proper to the Country." The list, which includes several mammals, mollusks, and crustaceans, is followed by a compendium of imagined or traditional medicinal virtues of many species.

A reprint of the first edition, edited by Edw. Tuckerman, 1860. Transactions and Collections American Antiquarian Society, Vol. IV, pp. 105-238.

Another reprint by Tuckerman. Boston, William Veazie, 1865.

A second edition. London, 1675.

1674. JOSSELYN, JOHN.

An Account of Two Voyages to New England. Wherein you have the setting out of a Ship, With the charges; the prices of all necessaries for furnishing a Planter & his Family at his first coming; a Description of the Country, Natives and Creatures, with their Mercantile and Physical use; the Government of the Countrey as it is now possessed by the English, &c. A large Chronological Table of the most remarkable passages from the first discovering of the Continent of America to the year 1673. By *John Josselyn*, Gent. [Quotation, six lines.]

London, Printed for Giles Widdowes at the Green Dragon in St. Paul's Churchyard, 1674.

Fishes are treated, pages 103-115. At pages 113-115, a list of 66 New England fishes is given. This list, like that of New England Rarities, 1672, contains several mammals, mollusks, crustaceans and echinoderms, and abounds in medicinal allusions.

Second edition. London, 1675.

A reprint of the 1675 edition occurs in Massachusetts Historical Society's Collections, Third Series, Vol. III, 1833 [pp. 211-396]. Here the list of fishes appears on pages 271-277.

1675. JOSSELYN, JOHN.

New England's Rarities Discovered, etc.

Second edition. London. See 1672.

1675. JOSSELYN, JOHN.

An Account of Two Voyages to New England, etc.

Second edition. See 1674.

In this edition "Creatures" is followed by a semicolon; the words, "with their Mercantile and Physical use," are omitted. After "John Josselyn, Gent." are the words "The Second Addition". Otherwise same title as 1674.

1795. SULLIVAN, JAMES.

The History of the District of Maine. Illustrated by a new correct map of the district.

Boston, 1795.

Scattered notes on the salmon, sturgeon and alewife fisheries at Kittery, Saco, Kennebec and Sheepscot Rivers, and the cessation of the salmon fishery with damming of the rivers.

List of species:

Salmo salar	as Salmon
Acipenser sturio	as Sturgeon
Pomolobus pseudoharengus	as Alewife
Alosa sapidissima	as Shad
Osmerus mordax	as Smelt
Microgadus tomcod	as Tomcod or frostfish

1804. PECK, WILLIAM D.

Descriptions of four remarkable fishes taken near the Piscataqua in New Hampshire.

Memoirs American Academy of Arts and Sciences, Vol. II, Part 2, p. 48.

List of species:

Cryptacanthodes maculatus	as Ophidium imberbe
Zoarces anguillaris	as Blennius anguillaris
Poronotus triacanthus	as Stromateus triacanthus
Catostomus commersonii	as Cyprinus catostomus

1818. MITCHILL, SAMUEL L.

Original communications.

American Monthly Magazine and Critical Review, Vol. II, Part 2, February, 1818, p. 244.

[*Lota maculosa* as *Gadus lacustris* (type) collected in Sebago Pond by Henry A. S. Dearborn, Esq.]

1832. M.

Salmon Trout—Sebago Lake.

American Turf Register and Sporting Magazine, Vol. III, No. 10, June, 1832, pp. 526-529.

The writer of this article, a captain (?) at Fort Preble, has given the first known account of *Salmo sebago*. He said: "This fish partly resembles in habit and appearance, as the name imports, both the salmon and the brook trout, being perhaps an intermediate species, and varies from two to fourteen pounds weight."

"The fish of this beautiful lake are, so far as my observation extends, essentially different from those of any other."

1832. WILLIAMSON, WILLIAM D.

The History of the State of Maine, from its First Discovery, A. D. 1602, to the Separation, A. D. 1820, inclusive, by William D. Williamson, in two volumes, published by Glazier, Masters & Co., Hallowell.

The chapter on fishes occurs in Vol. I, pp. 150-164.

NOMINAL SPECIES.	IDENTIFICATION.
1. <i>Blennius Chætodon</i>	<i>Anarhichas lupus</i> (?)
2. <i>Blennius Anguillarius</i>	<i>Zoarces anguillaris</i> (?)
3. <i>Anarhichas lupus</i>	<i>Cryptacanthodes maculatus</i>
4. <i>Gadus Morrhuæ</i>	<i>Gadus callarias</i>
5. <i>Gadus æglesinus</i>	<i>Melanogrammus æglifinus</i>
6. <i>Gadus pollachius</i>	<i>Pollachius virens</i>
7. <i>Gadus virens</i>	<i>Pollachius virens</i>
8. <i>Gadus molva</i>	<i>Urophycis tenuis</i> or <i>chuss</i> (?)
9. <i>Gadus luscus</i>	<i>Microgadus tomcod</i>
10. <i>Gadus</i>	<i>Brosmius brosme</i>
11. Freshwater cusk	<i>Lota maculosa</i>
12. <i>Petromyzon Fluviatilis</i>	<i>Petromyzon marinus</i>
13. <i>Petromyzon Marinus</i>	<i>Petromyzon marinus</i>
14. <i>Muraena Anguilla</i>	<i>Anguilla rostrata</i>
15. <i>Muraena Conger</i>	<i>Zoarces anguillaris</i>
16. <i>Pleuronectes Flesus</i>	<i>Pseudopleuronectes americanus</i>
17. <i>Pleuronectes Platessa</i>	<i>Liopsetta putnami</i>
18. <i>Pleuronectes Hippoglossus</i>	<i>Hippoglossus hippoglossus</i>
19. <i>Pleuronectes Papillosus</i>	<i>Limanda ferruginea</i>
20. <i>Pleuronectes Squatma</i>	<i>Raia stabuliforis</i>
21. <i>Clydopterus Lumpus</i>	<i>Cyclopterus lumpus</i>
22. <i>Scomber scombrus</i>	<i>Scomber scombrus</i>
23. <i>Scomber lanis</i>	<i>Thunnus thynnus</i>
24. <i>Scomber rostratus</i>	<i>Tylosurus marinus</i>
25. <i>Cyprinus</i>	Various <i>Cyprinidæ</i>
26. <i>Cyprinus catostomus forstor</i>	<i>Catostomus commersonii</i>
27. <i>Lophius piscatorius</i>	<i>Lophius piscatorius</i>
28. <i>Perca fluviatilis</i>	<i>Perca flavescens</i>
29. <i>Perca lucioperca</i>	<i>Morone americana</i>
30. <i>Perca undulata</i>	<i>Morone americana</i>
31. <i>Perca alburnus</i>	<i>Merluccius bilinearis</i>
32. <i>Perca ocellate</i>	<i>Roccus lineatus</i>
33. <i>Perca nobilis</i>	<i>Abramis crysoleucas</i> (?)
34. <i>Perca philadelphica</i>	<i>Semotilus bullaris</i>
35. <i>Perca chrysoptera</i>	<i>Lepomis gibbosus</i>
36. <i>Esox lucius</i>	<i>Esox reticulatus</i>
37. <i>Silurus felis</i>	<i>Ameiurus nebulosus</i>
38. <i>Rubellio fluviatilis</i>	<i>Semotilus bullaris</i>
39. <i>Salmo Salar</i>	<i>Salmo salar</i>
40. <i>Salmo Trutta</i>	<i>Salvelinus namaycush</i> (?)
41. <i>Salmo Eperlanus</i>	<i>Osmerus mordax</i>
42. <i>Clupea Alosa</i>	<i>Alosa sapidissima</i>
43. <i>Clupea Serrata</i>	<i>Pomolobus pseudoharengus</i>



44. Clupea Harengus	Clupea harengus
45. Clupea Dura Mystax	Pomolobus mediocris (?)
46. Clupea Minima	Clupea harengus (Young)
47. Clupea Menida (?)	Brevoortia tyrannus
48. Atherina	Menidia menidia notata
49. Squalus Stellaris	Alopias vulpes
50. Squalus Acanthias	Squalus acanthias
51. Squalus Xiphias	Xiphias gladius
52. Gasterosteus Solatrix	Poronotus triacanthus
53. Gasterosteus Aculeatus	Gasterosteus aculeatus
54. Acipenser sturio	Acipenser sturio
55. Cottus quadricornis	Myoxocephalus octodecimspinosus
56. Clydopterus (?)	Orthogoriscus mola
57. Raja Fullonica	Tautogolabrus adspersus
58. Pisces rana	Hemitripterus americanus
59. Troeta	Salvelinus fontinalis

## 1833. JOSSELYN, JOHN.

An Account of Two Voyages to New England, etc.

Massachusetts Historical Society's Collections, Vol. III, Third Series [pp. 211-396].

A reprint of the second edition of 1675. See Josselyn, 1674, of this bibliography.

List of fishes occurs on pp. 271-277.

## 1837. STORER, D. HUMPHREYS.

Description of a New Species of the Genus Gasterosteus.

Boston Journal of Natural History, Vol. I, 1837, p. 464.

[*Pungitius pungitius* as *Gasterosteus Mainensis* (type).]

## 1844. LINDSLEY, REV. JAMES H., A. M.

Catalogue of the Fishes of Connecticut, arranged according to the natural families. Prepared for the Yale Natural History Society.

American Journal of Sciences and Arts, Vol. XLVII, pp. 55-80.

[Black-nosed spotted dace, *Semotilus atromaculatus* as *Leuciscus atromaculata*, is mentioned from Maine, pp. 67-68.]

1845. BATCHELDER, J. M.

A Description of a New Species of *Argyreiosus*.

Proceedings Boston Society of Natural History, Vol. II,  
1845, p. 78.

[*Vomer setapinnis* as *Argyreiosus unimaculatus* (Young),  
type from Saco, Maine.]

1845. STORER, DR. [D. H.].

Proceedings Boston Society of Natural History, Vol. II,  
p. 72.

Abstract of verbal remarks on *Alutera schæpfi* as *Balistes aurantiacus* in Massachusetts, and exhibiting drawing of a specimen taken by Dr. Bates, in Portland Harbor, Maine.

1845. STORER, D. H.

A New Species of *Leptocephalus*.

Proceedings Boston Society of Natural History, Vol. II,  
1845, p. 76.

[*Leptocephalus conger* as *Leptocephalus gracilis*. Type from  
Cherryfield, Maine.]

1845. WYMAN, DR. [JEFFRIES].

Proceedings Boston Society of Natural History, Vol. I,  
p. 196.

Abstract of verbal communication on chub's nests observed  
in Magalloway River.

1846. STORER, DAVID HUMPHREYS.

A Synopsis of the Fishes of North America.

Memoirs American Academy of Arts and Sciences, New  
Series, Vol. II, pp. 253-550 (Cambridge, 1846).

Reissued, repaged 1-298. Cambridge: Metcalf and Com-  
pany, 1846.

## List of species :

Myoxocephalus grønlandicus	as Cottus Groenlandicus
Pungitius pungitius	as Gasterosteus Mainensis
Scomber scombrus	as Scomber vernalis
Zoarces anguillaris	as Zoarces anguillaris
Anarrhichas lupus	as Anarrhicas lupus
Lophius piscatorius	as Lophius Americanus
Batrachus tau	as Batrachus tau
Tautogolabrus adspersus	as Ctenolabrus ceruleus
Tautoga onitis	as Tautoga Americana
Ameiurus nebulosus	as Pimelodus catus
Salmo salar	as Salmo salar
Salvelinus fontinalis	as Salmo fontinalis
Osmerus mordax	as Osmerus viridescens
Alosa sapidissima	as Alosa sapidissima
Brevoortia tyrannus	as Alosa menhaden
Gadus callarias	as Morrhua Americana
Melanogrammus æglefinus	as Morrhua æglefinus
Microgadus tomcod	as Morrhua pruinosa
Hippoglossus hippoglossus	as Hippoglossus vulgaris
Cyclopterus lumpus	as Lumpus anglorum
Alutera schœpfii	as Monocanthus aurantiacus
Vomer setapinnis	as Argyreiosus unimaculatus
Leptocephalus conger	as Leptocephalus gracilis

## 1846. WOOD, DR. WILLIAM.

A description of a species of shark supposed by him to be hitherto undescribed.

Proceedings Boston Society of Natural History, Vol. II, p. 174.

Dr. Wood proposed the name *Leiodon echinatum* [*Somniosus brevipinna*] for the specimen, taken about eighty miles east of Portland, regarding it as the type of a new genus and species.

1848. STORER, DR. [H. D.].

Abstract of verbal communication identifying the shark described by Dr. Wood [Wood, 1846] with *Somniosus brevipinna* (LeSueur).

Proceedings Boston Society of Natural History, Vol. III, pp. 15-16.

1849. GIRARD, MR.

On the Genus *Cottus*.

Proceedings Boston Society of Natural History, Vol. III, pp. 183-190.

*Acanthocottus Greenlandicus*.

1851. EATON, CYRUS, A. M.

Annals of Warren with the Early History of St. George's, Broad Bay, and the neighboring settlements on the Waldo Patent.

Hallowell, Masters, Smith & Co.

Scattered notes on the importance and regulation of the fisheries, their early destruction and protective measures, the earliest fish ways, and fish wardens, with a table of vernal progress in the different seasons from 1805-1850, showing the appearance of the alewives in 1810, and from 1820 to 1850 inclusive. Pickerel said to have been introduced a few years prior to 1832.

List of species :

Petromyzon marinus	as	Lamprey
Acipenser sturio	as	Sturgeon
Ameiurus nebulosus	as	Pout
Catostomus commersonii	as	Sucker
Cyprinidæ and	as	{ Roach, chub,
Poeciliidæ as		
		{ Shiners and minnows
Anguilla rostrata	as	Eel

<i>Pomolobus pseudoharengus</i>	as	Alewife
<i>Pomolobus æstivalis</i>	as	Blueback
<i>Alosa sapidissima</i>	as	Shad
<i>Brevoortia tyrannus</i>	as	Menhaden
<i>Salmo salar</i>	as	Salmon
<i>Salvelinus fontinalis</i>	as	Trout
<i>Osmerus mordax</i>	as	Smelt
<i>Esox reticulatus</i>	as	Pickarel
<i>Perca flavescens</i>	as	Yellow perch
<i>Roccus lineatus</i>	as	Bass
<i>Morone americana</i>	as	White perch
<i>Microgadus tomcod</i>	as	Frostfish or tomcod
<i>Pseudopleuronectes</i>	as	} Flounders
<i>americana</i> (?) and		
<i>Liopsetta putnami</i>		
<i>Tylosurus marinus</i>	as	Garfish

1852. PERLEY, M. H.

Descriptive Catalogue (in part) of the Fishes of New Brunswick and Nova Scotia.

Second edition, 1852, pp. 1-50.

List of species :

<i>Sebastes marinus</i>	as	<i>Sebastes norvegicus</i>
<i>Tautogolabrus adspersus</i>	as	<i>Ctenolabrus cæruleus</i>
<i>Tautoga onitis</i>	as	<i>Tautoga americana</i>
<i>Ameiurus nebulosus</i>	as	<i>Pimelodus catus</i>
<i>Salvelinus namaycush</i>	as	<i>Salmo ferox</i>
<i>Coregonus labradoricus</i>	as	<i>Coregonus albus</i>
<i>Pomolobus mediocris</i>	as	<i>Alosa mattawaca</i>
<i>Melanogrammus æglifinus</i>	as	<i>Morrhua æglefinis</i>
<i>Pollachius virens</i>	as	<i>Merlangus carbonarius</i>
<i>Lota maculosa</i>	as	<i>Lota maculosa</i>
<i>Hippoglossus hippoglossus</i>	as	<i>Hippoglossus vulgaris</i>



1852. WHEATLAND, HENRY.

Notice on Several Fishes of Rare Occurrence.

Journal Essex County Natural History Society, Vol. I,  
p. 124.

[*Leptocephalus conger* as *Leptocephalus gracilis*, Cherryfield,  
Maine. "From a basin formed in a timber raft."]

1853. GIRARD, CHARLES.

Notice of a New Species of Salmonidæ from Maine.

Proceedings Boston Society of Natural History, Vol. IV,  
1851-1854, p. 262. (Read October 20, 1852; published  
1853.)

[*Salvelinus oguassa* as *Salmo oguassa* (type).]

1853B. GIRARD, CHARLES.

Description of a Supposed New Species of *Salmo*.

Proceedings Academy of Natural Science, Philadelphia,  
Vol. VI, 1853, p. 380.

[*Salmo sebago* as *Salmo sebago* (type).]

1853 (?). HAMLIN, AUGUSTUS C.

Brochure on the togue. [Title unknown.]

Holmes' discussion of the togue, under the name of "*Salmo toma*, Hamlin", in Natural History and Geology of Maine (1862), pp. 109-112, is therein stated to be copied from a brochure on the togue, published by A. C. Hamlin, M. D., Bangor, but the date of publication is not given. Hamlin, however (1903), refers to his brochure on the togue of "about 50 years ago". The present author has tried in vain to find a copy of this privately printed paper, therefore the date is taken from Hamlin's statement, which may not be exact.

1853. STORER, D. HUMPHREY.

A History of the Fishes of Massachusetts. Parts 1 and 2.

Memoirs American Academy of Arts and Sciences, New Series, Vol. V.

Part 1, pp. 49-92, pls. 1-8; Part 2, pp. 122-168, pls. 9-16.

In reprint 1867A. Comprised in pp. 1-91.

List of species:

<i>Perca flavescens</i>	as <i>Perca flavescens</i>
<i>Roccus lineatus</i>	as <i>Labrax lineatus</i>
<i>Morone americana</i>	as <i>Labrax rufus</i>
<i>Myoxocephalus grœnlandicus</i>	as <i>Acanthocottus variabilis</i>
<i>Hemitripterus americanus</i>	as <i>Hemitripterus Acadianus</i>
<i>Sebastes marinus</i>	as <i>Sebastes Norvegicus</i>
<i>Pungitius pungitius</i>	as <i>Gasterosteus Dekayi</i>
<i>Scomber scombrus</i>	as <i>Scomber vernalis</i>
<i>Scomberomorus maculatus</i>	as <i>Cybium maculatum</i>
<i>Vomer setapinnis</i>	as <i>Argyreiosus unimaculatus</i>
<i>Pomatomus saltatrix</i>	as <i>Temnodon saltator</i>
<i>Menidia menidia notata</i>	as <i>Atherina notata</i>

1853. U. S. National Museum.

Record Book, Department of Fishes, U. S. N. M., Vol. I.

A wrymouth (*Cryptacanthodes maculatus*) is recorded as collected in Maine by Wm. Stimpson, but there is no date. The probability is that it was collected at Eastport about 1852 or 1853.

1854. GIRARD, CHARLES.

Notice of a New Species of Salmonidæ, from the north-eastern part of the United States.

Proceedings Academy of Natural Science, Philadelphia, Vol. VII, 1854, pp. 85-86.

[*Salmo salar* (Young) as *Salmo gloveri*. Type from Union River, Maine.]

1855. STORER, D. HUMPHREYS.

A History of the Fishes of Massachusetts. Part 3, 1855.

Memoirs American Academy of Arts and Sciences, New Series, Vol. V, pp. 257-296, pls. 17-23.

In reprint 1867A. Comprised in pp. 92-131.

List of species :

Pholis gunnellus	as Gunnellus mucronatus
Zoarces anguillaris	as Zoarces anguillaris
Anarrhichas lupus	as Anarrhichas vomerinus
Lophius piscatorius	as Lophius Americanus
Opsanus tau	as Batrachus tau
Tautoglabrus adpersus	as Ctenolabrus ceruleus
Tautoga onitis	as Tautoga Americana
Ameiurus nebulosus	as Pimelodus atrarius

1856.

Donations to the Museum.

Proceedings Boston Society of Natural History, Vol. V, p. 399.

Four specimens of *Salmo erythrogaster*, lake trout, as *Salvelinus fontinalis*, from Moosehead Lake, by Dr. Augustus C. Hamlin, of Bangor.

1857. [KNEELAND.]

Donations to the Museum.

Proceedings Boston Society of Natural History, Vol. VI, p. 45.

Fishes from Moosehead Lake, Great Schoodic Lakes, Penobscot River and sea near its mouth, by Dr. Kneeland, jr.

List of species :

Salvelinus fontinalis	as Salmo erythrogaster
Salvelinus fontinalis	as Salmo fontinalis
Osmerus mordax	as Smelts
(?)	as Alosa, three species,

1858. STORER, D. HUMPHREYS.

A History of the Fishes of Massachusetts. Part 4, 1858.

Memoirs American Academy of Arts and Sciences, New Series, Vol. VI, pp. 309-372, pls. 24, 29.

In reprint 1867A. Comprised in pp. 132-195.

List of species :

Esox reticulatus	as Esox reticulatus
Salmo salar	as Salmo salar
Salvelinus fontinalis	as Salmo fontinalis
Osmerus mordax	as Osmerus viridescens
Alosa sapidissima	as Alosa præstabilis
Brevoortia tyrannus	as Alosa menhaden
Gadus callarias	as Morrhua Americana
Melanogrammus æglefinus	as Morrhua æglefinus
Microgadus tomcod	as Morrhua pruinosa
Pollachius virens	as Merlangus purpureus
Urophycis tenuis	as Phycis Americanus
Hippoglossus hippoglossus	as Hippoglossus vulgaris

1859. HERBERT, WILLIAM HENRY.

Frank Forester's Fish and Fishing of the United States and British Provinces of North America. Illustrated from nature. New edition, revised and corrected, with ample supplement by the author, together with a Treatise on Fly Fishing, by "Dinks", 1859, pp. i-xxiv, 1-512.

[*Salmo sebago*.]

1860.

Donations to the Museum.

Proceedings Boston Society Natural History, Vol. VII, p. 429.

A young salmon from Sebago Lake, by Walter Brackett.

[*Salmo sebago*.]

1860. JOSSELYN, JOHN.

New England's Rarities Discovered [etc.] With an Introduction and Notes by Edward Tuckerman.

Transactions and Collections American Antiquarian Society, Vol. IV, pp. 105-238.

A reprint of the first edition (1672) edited by Edward Tuckerman.

1861. HOLMES, E.

Notes and Sketches of the Wild Land Explored.

Preliminary Report upon the Natural History and Geology of the State of Maine, 1861, pp. 331-360.

[*Coregonus labradoricus* as *Coregonus albus*, collected by Manly Hardy and Louis Ketchum, p. 353.]

1862. HITCHCOCK, C. H.

Geology of Maine.

Second Annual Report upon the Natural History and Geology of the State of Maine, 1862, pp. 323-430. The following list of fishes occurs at p. 328.

List of species :

Salvelinus quassa	as Salmo quassa
Semotilus bullaris (?)	as Uncommon variety of dace
Catostomus catostomus	as A red-sided sucker

1862. HOLMES, DR. EZEKIEL.

Report on the Fishes of Maine, including some of the Elementary Principles of Ichthyology.

Natural History and Geology of Maine, Second Annual Report, 1862, pp. 11-117.



FIRST LIST.	SECOND LIST.	THIRD LIST.	IDENTIFICATION.
Gunnellus mucronatus	Muraenoides mucronatus	Gunnellus mucronatus	Pholis gunnellus
Zoarces anguillaris	Zoarces anguillaris	Zoarces anguillaris	Zoarces anguillaris
Stichæus subbifurcatus	Stichæus subbipinnatus	Pholis subbifurcatus	Ulvaria subbifurcata
Anarrhicas vomerinus	Anarrhicas vomerinus	Anarrhicas vomerinus	Anarrhicas lupus
Lophius Americana	Lophius Americanus	Lophius Americana	Lophius piscatorius
Batrachus tau	Batrachus tau	Batrachus tau	Opsanus tau
Perca flavescens	Perca flavescens	Perca Flavescens	Perca flavescens
Labrax lineatus	Roccus lineatus	Roccus lineatus	Roccus lineatus
Labrax rufus	Morone Americana	Morone Americana	Morone americana
Pomotis vulgaris	Pomotis vulgaris	Pomotis vulgaris	Lepomis gibbosus
.....	Pomotis appendix	Pomotis appendix	Lepomis auritus
Sebastes Norvegicus	Sebastes Norvegicus	Sebastes Norvegica	Sebastes marinus
Gasterosteus DeKay (?)	Pygosteus DeKayii	Gasterosteus blaculeatus	Gasterosteus aculeatus
Otolithus regalis	Cynoscion regalis	Gasterosteus DeKayi	Pungitius pungitius
Pagrus argyrops (?)	Pagrus argyrops	Otolithus regalis	Cynoscion regalis
Scomber vernalis	Scomber vernalis	Pagrus argyrops	Stenotomus chrysops
.....	Scomber grex	Scomber vernalis	Scomber scombrus
Thynnus secundo-dorsalis	Oreynus secundi-dorsalis	Scomber grex	Scomber colias
Cybiu maculatum	Oreynus secundo-dorsalis	{ Thynnus secundo-dorsalis	Thynnus thynnus
Argyreosus unimaculatus	Apodontis maculatus	{ Oreynus secundo-dorsalis	Scomberomorus maculatus
Temnodon saltator	Vomer setipinnis	Cybiu maculatum	Vomer setipinnis
.....	Pomatomus saltatrix	Pomatomus saltatrix	Pomatomus saltatrix
Rhombus anacanthus (?)	.....	{ Poronotus triacanthus	Poronotus triacanthus
.....	.....	{ Rhombus triacanthus	

FIRST LIST.	SECOND LIST.	THIRD LIST.	IDENTIFICATION.
Atherina notata	Chirostoma notatum	Atherina notata	Menidia menidia notata
Dactylopterus volitans	Dactylopterus volitans	Dactylopterus volitans	Cephalacanthus volitans*
Acanthocottus variabilis	Acanthocottus octodecim- spinatus	Acanthocottus octodecim- spinatus	Myoxocephalus octodecimspi- nosus
Acanthocottus Virginianus	Acanthocottus Groenlandi- cus	Acanthocottus groenlandi- cus	Myoxocephalus groenlandicus
.....	Acanthocottus Labradoricus	.....	.....
Aspidophorus monoptery- gius	Aspidophorus monoptery- gius	Aspidophoroides monoptery- gius	Aspidophoroides monoptery- gius
Cryptacanthodes maculatus	Cryptacanthodes maculatus	Cryptacanthodes maculatus	Cryptacanthodes maculatus
Cryptocanthodes inornatus	Cryptocanthodes inornatus	.....	Cryptacanthodes maculatus
Hemitripterus Acadianus	Hemitripterus Acadiensis	Hemitripterus acadianus	Hemitripterus americanus
Morrhua Americana	Gadus Americanus	.....	Gadus callarias
Morrhua aeglefinus	Melanogrammus aeglefinus	.....	Melanogrammus aeglefinus
Merlangus pruinosa	Gadus pruniosus	.....	Microgadus tomcod
Merlangus purpureus	Merlangus purpureus	.....	Pollachius virens
.....	Merluccius vulgaris	.....	Merluccius bilinearis
Phycis americanus	Phycis Americana	.....	Urophycis chuss
Phycis filamentosus	Phycis DeKayii	.....	Urophycis tenuis
Brosimius flavescens	Brosimius flavescens	.....	Brosimius brosme
Ophidium marginatum (?)	Ophidium marginatum	.....	Lota maculosa
Hippoglossus vulgaris	Hippoglossus Americana	.....	Hippoglossus hippoglossus
Pomatomus dentata	Pomatopsetta dentata	.....	Paralichthys dentatus
.....	Pleuronectes Americanus	.....	Pseudopleuronectes americanus
Ctenolabrus ceruleus	Ctenolabrus Burgall	.....	Tautoglabrus adspersus
Tautoga Americana	Tautoga Americana	.....	Tautoga onitis

FIRST LIST.	SECOND LIST.	THIRD LIST.	IDENTIFICATION.
<i>Pimelodus atrarius</i>	<i>Amiurus pullus</i>	.....	<i>Amiurus nebulosus</i>
<i>Cyprinus auratus</i>	<i>Caraseira auratus</i> (?)	.....	<i>Carassius auratus</i>
<i>Leucosomus Americanus</i>	<i>Leucosomus Americanus</i>	.....	<i>Abramis crysoleucas</i>
.....	<i>Plargyrus cornutus</i> (?)	.....	<i>Notropis cornutus</i>
<i>Catostomus communis</i>	<i>Catostomus Bostoniensis</i> (?)	.....	<i>Catostomus commersonii</i>
<i>Catostomus gibbosus</i> (?)	<i>Moxostomus oblongus</i>	.....	<i>Emyizon oblongus</i>
<i>Fundulus pisculentus</i>	<i>Fundulus pisculentus</i>	.....	<i>Fundulus heteroclitus</i>
<i>Esox reticulatus</i>	<i>Esox reticulatus</i>	.....	<i>Esox reticulatus</i>
<i>Salmo salar</i>	<i>Salmo salar</i>	.....	<i>Salmo salar</i>
<i>Fario fontinalis</i>	<i>Salmo fontinalis</i>	.....	<i>Salvelinus fontinalis</i>
<i>Fario erythrogaster</i> (?)	<i>Salmo erythrogaster</i>	.....	<i>Salvelinus fontinalis</i>
.....	<i>Salmo Gloveri</i>	.....	<i>Salmo salar</i>
<i>Fario Sebago</i>	<i>Salmo Sebago</i>	<i>Salmo Gloveri</i>	<i>Salmo sebago</i>
<i>Fario tsuppitch</i> (?)	.....	<i>Salmo sebago</i>	<i>Salmo sebago</i> (?)
.....	<i>Salmo hamatus</i>	.....	<i>Salvelinus namaycush</i>
.....	<i>Salmo Tomah</i>	<i>Salmo Tomah</i>	<i>Salvelinus namaycush</i>
.....	.....	.....	<i>Salvelinus namaycush</i>
<i>Fario confinis</i> (?)	<i>Salmo oquassa</i>	<i>Salmo oquassa</i>	<i>Salvelinus oquassa</i>
<i>Fario</i> ..... (?)	<i>Osmerus mordax</i>	.....	<i>Osmerus mordax</i>
<i>Osmerus viridescens</i>	<i>Coregonus albus</i>	.....	<i>Coregonus labradoricus</i>
<i>Coregonus albus</i>	<i>Coregonus albus</i>	.....	<i>Coregonus quadrilateralis</i> (?)
<i>Coregonus clupeiformis</i> (?)	<i>Argyrosoma clupeiformis</i>	.....	<i>Clupea harengus</i>
<i>Clupea elongata</i>	<i>Clupea elongata</i>	.....	<i>Alosa sapidissima</i>
<i>Alosa prestabilis</i>	<i>Alosa sapidissima</i>	.....	<i>Pomolobus pseudoharengus</i>
<i>Alosa tyrannus</i> .....	<i>Alosa tyrannus</i>	.....	<i>Brevoortia tyrannus</i>
<i>Alosa menhaden</i>	<i>Brevoortia menhaden</i>	.....	

FIRST LIST.	SECOND LIST.	THIRD LIST.	IDENTIFICATION.
<i>Alosa cyanonoton</i>	<i>Alosa cyanonoton</i>	.....	<i>Pomolobus estivalis</i>
<i>Engraulis vittata</i> (?)	<i>Engraulis vittata</i>	.....	<i>Anchovia mitchilli</i>
<i>Scomberesox storeri</i>	<i>Scomberesox scutellatus</i>	<i>Scomberesox scutellatus</i>	<i>Scomberesox saurus</i>
<i>Anguilla Bostoniensis</i>	<i>Anguilla Bostoniensis</i>	.....	<i>Anguilla rostrata</i>
<i>Acipenser sturio</i>	<i>Acipenser oxyrhynchus</i>	.....	<i>Acipenser sturio</i>
<i>Petromyzon marinus</i>	<i>Petromyzon Americanus</i>	.....	<i>Petromyzon marinus</i>
.....	<i>Leptocephalus gracilis</i>	.....	<i>Leptocephalus conger</i>
.....	<i>Cetorhinus maximus</i> (?)	.....	<i>Cetorhinus maximus</i>
.....	<i>Somniosus brevipennis</i>	.....	<i>Somniosus microcephalus</i>

1863. STORER, J. HUMPHREYS.

A History of the Fishes of Massachusetts. Part V, 1863.

Memoirs American Academy of Arts and Sciences, New Series, Vol. VIII, pp. 389-434, pls. 30, 35.

In reprint 1867A. Comprised in pp. 196-241.

List of species:

Cyclopterus lumpus	as Lumpus Anglorum
Alutera schœpfii	as Monacanthus aurantiacus
Acipenser sturio	as Acipenser oxyrinchus

1865. [ATWOOD, N. E.]

[Meeting] October 19, 1864.

Proceedings Boston Society of Natural History, Vol. X, pp. 65-67.

Abstract of address by Capt. N. E. Atwood, upon Habits of Salt Water Fishes, especially of Mackerel and Menhaden.

List of species:

Scomber scombrus	as Scomber vernalis
Scomber colias	as Scomber grex

1865. JOSSELYN, JOHN.

New England's Rarities Discovered. In Birds, Beasts, Fishes, Serpents and Plants of that Country. With an Introduction and Notes by Edward Tuckerman, M. A. Boston, William Veazie, MDCCCLXV.

A reprint of Josselyn's first (1672) edition. See Josselyn, 1672, this bibliography.

1865. [PUTNAM AND PICKERING.]

[Meeting] October 5, 1864.

Proceedings Boston Society of Natural History, Vol. X, pp. 64-65.

Abstract of remarks by F. W. Putnam and Dr. Pickering



on distribution of fishes, Great Lakes, Richardson Chain, Sebago Lake and Androscoggin River.

List of species:

Semotilus bullaris	as Chub
Notropis cornutus	as Red fin
Lota maculosa	as Lota
Salmo sebago	as Salmo
Esox reticulatus	as Pickerel
Anguilla rostrata	as Eel

1866. [PUTNAM, F. W.]

Donations to Museum.

Proceedings Boston Society of Natural History, Vol. X, p. 164.

Among a large number of specimens presented to the Boston Society of Natural History, January 4, 1865, are mentioned "nine hundred fish . . . from Northern Maine by Mr. F. W. Putnam". (See this bibliography, 1865. [Meeting] October 5, 1864.) Though no names are given, some of the specimens are referred to in the present catalogue as B. S. N. H., Putnam coll.

1866A. [Putnam.]

[Meeting] May 17, 1865.

Proceedings Boston Society of Natural History, Vol. X, p. 181.

Remarks by F. W. Putnam on trout [*Salvelinus namaycush* (?)] found in Thompson's Pond, Norway, Me.

1867. ATWOOD, CAPT. [N. E.]

"Addressed the Society upon the habits of our native species of the *Gadidae*."

Proceedings Boston Society of Natural History, Vol. XI, pp. 100-102.

Mentions the cusk (*Brosmius brosme* as *Bromius vulgaris*) off Wells Bay, about Cape Porpoise and Cashes' Ledge as "not infrequent."

1867. STORER, DAVID HUMPHREYS.

A History of the Fishes of Massachusetts. Part 6.

Memoirs American Academy of Arts and Sciences, New Series, 1867, Vol. IX, pp. 217-263, pls. 36-39.

In the reprint 1867A, comprised in pp. 242-287.

List of species :

Isurus punctatus	as Lamna punctata
Cetorhinus maximus	as Selachus maximus
Somniosus microcephalus	as Scymnus brevipinna
Neoliparis atlanticus	as Liparis (sp. ?) allied to L. arctica

1867A. STORER, DAVID HUMPHREYS.

A History of the Fishes of Massachusetts.

Reprinted from the Memoirs of the American Academy of Arts and Sciences, repaged 1-287, pls. 1-39.

This work was issued in six parts, duly cited in this bibliography. See Storer, 1853, Parts 1 and 2, 1855, 1858, 1863 and 1867.

List of species :

Perca flavescens	as Perca flavescens
Roccus lineatus	as Labrax lineatus
Morone americana	as Labrax rufus
Myoxocephalus grœnlandicus	as Acanthocottus variabilis
Hemitripterus americanus	as Hemitripterus Acadianus
Sebastes marinus	as Sebastes norvegicus
Pungitius pungitius	as Gasterosteus Dekayii
Scomber scombrus	as Scomber vernalis
Scomberomorus maculatus	as Cymbium maculatam

Vomer setapinnis	as <i>Argyreiosus unimaculatus</i>
Pomatomus saltatrix	as <i>Temnodum saltator</i>
Menidia menidia notata	as <i>Atherina notata</i> *
Pholis gunnellus	as <i>Gunnellus mucronatus</i>
Zoarces anguillaris	as <i>Zoarces anguillaris</i>
Anarrhichas lupus	as <i>Anarrhichas vomerinus</i>
Lophius piscatorius	as <i>Lophius Americanus</i>
Opsanus tau	as <i>Batrachus tau</i>
Tautogolabrus adspersus	as <i>Ctenolabrus ceruleus</i>
Tautoga onitis	as <i>Tautoga Americana</i>
Ameiurus nebulosus	as <i>Pimelodus atrarius</i>
Esox reticulatus	as <i>Esox reticulatus</i>
Salmo salar	as <i>Salmo salar</i>
Salvelinus fontinalis	as <i>Salmo fontinalis</i>
Osmerus mordax	as <i>Osmerus viridescens</i>
Alosa sapidissima	as <i>Alosa præstabilis</i>
Brevoortia tyrannus	as <i>Alosa menhaden</i>
Gadus callaris	as <i>Morrhua Americana</i>
Melanogrammus æglefinus	as <i>Morrhua æglefinus</i>
Microgadus tomcod	as <i>Merlangus pruinosa</i>
Pollachius virens	as <i>Merlangus purpureus</i>
Urophycis tenuis	as <i>Phycis Americanus</i>
Hippoglossus hippoglossus	as <i>Hippoglossus vulgaris</i>
Cyclopterus lumpus	as <i>Lumpus Anglorum</i>
Aleutera schœpfii	as <i>Monacanthus aurantiacus</i>
Acipenser sturio	as <i>Acipenser oxyrinchus</i>
Isurus punctatus	as <i>Lamna punctata</i>
Cetorhinus maximus	as <i>Selachus Maximus</i>
Somniosus microcephalus	as <i>Scymnus brevipinna</i>
Neoliparis atlanticus	as <i>Liparis</i> (sp. ?) allied to <i>L. arctica</i>

\*Piscataqua River, according to Prof. Peck (?), of "Kittery, N. H." [Maine].

1868.

Additions to the museum and library during October, November and December, 1867.

Proceedings Essex Institute, Vol. V, p. 207.

E. Bicknell, Salem. A mackerel shark from Portland Harbor [*Isurus nasus* (?)].

1868. FOSTER, NATHAN W., and ATKINS, CHARLES G.

First Report of the Commission of Fisheries of the State of Maine, 1867 (1868).

Also issued as Senate Document, No. 7, 1868, and in one volume with the second report, 1869.

Cited as Me. F. C. Report, 1868.

List of species:

Salmo salar	as Salmo salar
Osmerus mordax	as Osmerus viridescens
Alosa sapidissima	as Alausa præstabilis
Pomolobus pseudoharengus	as Alausa tyrannus
Roccus lineatus	as Roccus lineatus
Salmo sebago	as Salmo sebago
Salvelinus fontinalis	as Salmo fontinalis
Salvelinus namaycush	as Salmo toma
Salvelinus oquassa	as Salmo oquassa
Osmerus mordax (?)	as Fresh water smelt
Coregonus labradoricus	as Coregonus
Morone americana	as Morone americana
Esox reticulatus	as Esox reticulatus

1869. FOSTER, NATHAN W., and ATKINS, CHARLES G.

Second Report of the Commissioners of Fisheries of the State of Maine, 1868 (1869).

The first and second reports were also issued in one volume, 1869.

Cited as Me. F. C. Report, 1869.

## List of species:

Salmo salar	as Salmo gloveri
Salmo salar	as Salmon
Alosa sapidissima	as Shad
Pomolobus pseudoharengus	as Alewife
Roccus lineatus	as Roccus lineatus
Osmerus mordax	as Smelt
Clupea harengus	as Herring
Pomolobus æstivalis	as Blueback
Brevoortia tyrannus	as Porgie
Scomber scombrus	as Mackerel
Pomatomus saltatrix	as Bluefish
Salmo sebago	as Sebago salmon
Osmerus abbottii	as Little smelt of Monmouth
Osmerus mordax	as Large smelt of Sidney and Belgrade
Morone americana	as White perch
Anguilla rostrata	as Eel
Salmo sebago	as Schoodic salmon

1870.

Additions to the Museum of the [Essex] Institute and Peabody Academy of Science.

Bulletin Essex Institute, Vol. I, p. 35.

Portland Society of Natural History. Three specimens of *Liparis* (sp. ?) found among the eelgrass, Portland Harbor, collected by C. B. Fuller.

Charles G. Atkins, living young salmon and eggs of *Salmo fontinalis* from Grand River, Maine.

1870. ATKINS, CHARLES G.

Third Report of the Commissioner of Fisheries of the State of Maine, 1869 (1870).

This report shows the manner, time and places of the first introduction of black bass into Maine.

Cited as Me. F. C. Report, 1870.



## List of species:

<i>Micropterus dolomieu</i>	as Black bass
<i>Salmo sebago</i>	as Schoodic salmon
<i>Pomolobus pseudoharengus</i>	as Alewife
<i>Osmerus mordax</i>	as Smelt
<i>Esox reticulatus</i>	as Pickerel
<i>Alosa sapidissima</i>	as Shad

## 1870A. ATKINS, CHARLES G.

Fourth Report of the Commissioner of Fisheries of the State of Maine for the year 1870 (1870).

Reports a survey of Penobscot River and Matagamon or East Branch for breeding grounds of salmon (*Salmo salar*).

Cited as Me. F. C. Report, 1870A.

## List of species:

<i>Pomolobus pseudoharengus</i>	as Alewife
<i>Salmo salar</i>	as Salmon
<i>Salvelinus fontinalis</i>	as Trout
<i>Coregonus labradoricus</i>	as Whitefish
<i>Semotilus bullaris</i>	as Chub

## 1870. COPE, E. D.

A Partial Synopsis of the Fishes of the Fresh Waters of North Carolina.

Proceedings American Philosophical Society, Vol. XI, 1870, pp. 448-495.

## List of species:

<i>Osmerus spectrum</i>	as <i>Osmerus spectrum</i> (type)
<i>Osmerus abbottii</i>	as <i>Osmerus Abbottii</i> (type)
<i>Osmerus mordax</i>	as <i>Osmerus viridescens</i>

## 1870. U. S. National Museum.

Record Books of the Department of Fishes, U. S. N. M.  
*Squalus acanthias*.

## 1871. REVIEWS.

The American Naturalist, Vol. V, pp. 412-414.

Mr. Atkins' Report as Commissioner of Fisheries of the State of Maine.

Salmon, shad and alewife [*Salmo salar*, *Alosa sapidissima* and *Pomolobus pseudoharengus*].

## 1871. VERRILL, A. E.

On the Food and Habits of Some of our Marine Fishes.

The American Naturalist, Vol. V, No. 7, September, 1871, pp. 397-400.

## List of species:

Anarrhichas lupus	as Anarrhichas vomerinus
Myoxocephalus	} as Sculpins
grœnlandicus	
Myoxocephalus	
octodecimspinosus	
Melanogrammus æglifinus	as Haddock
Pollachius virens	as Pollack
Gadus callarias	as Cod
Urophycis tenuis	as Hake
Sebastes marinus	as Sebastes
Clupea harengus	as Clupea elongata

## 1872. ATKINS, CHARLES G.

Fifth Report of the Commissioner of Fisheries of the State of Maine, 1871 (1872).

Cited as Me. F. C. Report, 1872.

## List of species:

Salmo salar	as Salmon
Alosa sapidissima	as Shad

1872. C. G. A[TKINS].

Propagation of Salmon.

The American Naturalist, Vol. VI, pp. 170-172.

First attempt to obtain eggs of *Salmo salar*.

1872A. STILWELL, E. M., and STANLEY, HENRY O.

Sixth Report of the Commissioners of Fisheries of the State of Maine for the year 1872 (1872).

Contains report of C. G. Atkins on collecting salmon eggs at Bucksport.

Cited as Me. F. C. Report, 1872A.

List of species :

<i>Salmo salar</i>	as Salmon
<i>Micropterus dolomieu</i>	as Black bass
<i>Pomolobus pseudoharengus</i>	as Alewife

1872. U. S. National Museum.

Fishes from Eastport, Maine, collected by U. S. Fish Commission in 1872.

Record Books of the Department of Fishes, U. S. N. M., Vol. III.

List of species :

<i>Clupea harengus</i>	as <i>Clupea elongata</i>
<i>Zoarces anguillaris</i>	as <i>Zoarces anguillaris</i>
<i>Hippoglossus hippoglossus</i>	as <i>Hippoglossus americanus</i>
<i>Melanogrammus æglifinus</i>	as <i>Melanogrammus æglifinus</i>
<i>Myoxocephalus grœnlandicus</i>	as <i>Cottus grœnlandicus</i>
<i>Gymnocanthus tricuspis</i>	as <i>Gymnocanthus patris</i>
<i>Sebastes marinus</i>	as <i>Sebastes norwegicus</i>
<i>Sebastes marinus</i>	as <i>Sebastes viviparus</i>
<i>Pollachius virens</i>	as <i>Pollachius vulgaris</i>
<i>Pollachius virens</i>	as <i>Pollachius carbonarius</i>
<i>Microgadus tomcod</i>	as <i>Microgadus tomcod</i>

<i>Scomber scombrus</i>	as <i>Scomber vernalis</i>
<i>Cyclopterus lumpus</i>	as <i>Cyclopterus lumpus</i>
<i>Poronotus triacanthus</i>	as <i>Poronotus triacanthus</i>
<i>Urophycis tenuis</i>	as <i>Phycis tenuis</i>
<i>Raia</i> sp. (?)	as <i>Raia maculata</i> ? ( <i>lævis</i> ?)
<i>Gadus callarias</i>	as <i>Gadus morrhua</i>
<i>Lophius piscatorius</i>	as <i>Lophius americanus</i>
<i>Hemitripterus americanus</i>	as <i>Hemitripterus acadianus</i>
<i>Pholis gunnellus</i>	as <i>Murænoides mucronatus</i>
<i>Stenotomus chrysops</i>	as <i>Stenotomus argyrops</i>
<i>Osmerus mordax</i>	as <i>Osmerus mordax</i>
<i>Salmo salar</i>	as <i>Salmo salar</i>
<i>Alosa sapidissima</i>	as <i>Alosa sapidissima</i>
<i>Pomolobus pseudoharengus</i>	as <i>Pomolobus pseudoharengus</i>
<i>Pseudopleuronectes</i> <i>americanus</i>	as <i>Pseudopleuronectes americanus</i>
<i>Merluccius bilinearis</i>	as <i>Merluccius bilinearis</i>
<i>Raia diaphanes</i>	as <i>Raia ocellata</i>
<i>Raia erinacea</i>	as <i>Raia erinacea</i>
<i>Fundulus heteroclitus</i>	as <i>Fundulus heteroclitus</i>
<i>Fundulus heteroclitus</i>	as <i>Hydrargyra majalis</i>
<i>Petromyzon marinus</i>	as <i>Petromyzon americanus</i>
<i>Lumpenus lampatræformis</i>	as <i>Leptoblennius serpentinus</i>
<i>Aspidophoroides</i> <i>monopterygius</i>	as <i>Aspidophoroides monopterygius</i>
<i>Pomolobus æstivalis</i>	as <i>Pomolobus æstivalis</i>
<i>Pungitius pungitius</i>	as <i>Pygosteus occidentalis</i>
<i>Gasterosteus aculeatus</i>	as <i>Gasterosteus biaculeatus</i>
<i>Squalus acanthias</i>	as <i>Squalus americanus</i>
<i>Apeltes quadracus</i>	as <i>Apeltes quadracus</i>

1872a. *U. S. National Museum.*

Fishes collected by Sen. Edmonds at Grand Lake Stream,  
1872.

Record Books of the Department of Fishes, U. S. N. M.,  
Vol. III.

List of species :

Salmo sebago	as Salmo sebago
Salvelinus namaycush	as Salmo toma

1872. VERRILL, A. E.

Marine Fauna of Eastport, Me.

Bulletin Essex Institute, Vol. III, pp. 2-6.

A report on the abundance and nature of the invertebrate fauna. The following fishes are mentioned : *Clupea harengus* as herring, *Clupea elongata* ; *Urophycis* (sp. ?) as hake ; *Melanogrammus aeglefinus* as haddock ; *Pollachius virens* as pollock ; *Anarhicas lupus* as wolf-fish, *Anarhicas vomerinus* ; *Cetorhinus maximus* as basking shark, *Cetorhinus maximus*.

1873. ADAMS, A. LEITH.

Field and Forest Rambles.

List of species :

Esox reticulatus	as Esox reticulatus
Salvelinus namaycush	as Togue
Salmo sebago	as Salmo sebago
Salmo sebago	as Salmo Gloveri
Semotilus bullaris	as Silvery dace
Semotilus bullaris (?)	as Roach dace
Rhinichthys atronasmus	as Brook minnow
Notropis cornutus (?)	as A red-banded species
Gasterosteus atkinsii	as Two-spined stickleback
Pungitius pungitius	as Nine-spined stickleback
Salvelinus fontinalis	as Trout
Semotilus sp. (?)	as Chub
Notropis cornutus	as Redfin
Anguilla rostrata	as Eel
Catostomus catostomus	as Catostomus longirostris
Salvelinus oquassa	as Salmo oquassa



## 1873. ATKINS, CHARLES G.

On the Salmon of Eastern North America and its Artificial Culture.

Report U. S. Fish Commission, 1872 (1873), pp. 226-337.  
[*Salmo salar*.]

## 1873. GILL, THEODORE.

Catalogue of the Fishes of the East Coast of North America.

Smithsonian Miscellaneous Collection, 1873, Vol. XIV, Article II, pp. 1-50.

## List of species:

Lophius piscatorius	as Lophius americanus
Limanda ferruginea	as Myzopsetta ferruginea
Liopsetta putnami	as Pleuronectes glaber
Glyptocephalus cynoglossus	as Glyptocephalus acadianus
Urophycis tenuis	as Phycis tenuis
Merluccius bilinearis	as Merlucius bilinearis
Zoarces anguillaris	as Zoarces anguillaris
Cryptacanthodes maculatus	as Cryptacanthodes inornatus
Ulvaria subbifurcata	as Eumesogrammus subbifurcatus
Sebastes marinus	as Sebastes viviparus
Vomer setapinnis	as Vomer setipinnis
Palinurichthys perciformis	as Palinurichthys perciformis
Poronotus triacanthus	as Poronotus triacanthus
Menidia menidia notata	as Chirostoma notata
Fundulus heteroclitus	as Fundulus pisculentus
Pomolobus pseudoharengus	as Pomolobus pseudoharengus
Carcharias taurus	as Eugomphodus littoralis

## 1873. HALLOCK, CHARLES.

The Fishing Tourist; Anglers' Guide and Reference Book, 1873.

## List of species:

Salmo sebago	as Salmo gloveri
Salvelinus namaycush	as "Toag"
Salmo sebago (?)	as Salmo sebago
Salvelinus fontinalis	as Salmo fontinalis

1873. HAMLIN, A. C.

On the Salmon of Maine.

Report U. S. Fish Commission, 1872, pp. 338-356.

[*Salmo sebago* as *Salmo salar*.]

1873. SUCKLEY, GEO.

On the North American Species of Salmon and Trout.

Report U. S. Fish Commission, 1872 (1873), pp. 91-160.

## List of species:

Salmo salar	as Salmo salar
Salvelinus fontinalis	as Salmo fontinalis
Salmo sebago	as Salmo sebago
Salvelinus quassa	as Salmo quassa
Salvelinus namaycush	as Lake trout

1873. U. S. National Museum.

Fishes from Casco Bay, Maine, collected by U. S. Fish Commission in 1873.

Record Books of the Department of Fishes, U. S. N. M., Vol. III.

## List of species:

Raia sp.	as Raia
Tautogolabrus adspersus	as Tautogolabrus adspersus
Isurus tigris	as Isuropsis dekayi
Cyclopterus lumpus	as Cyclopterus lumpus
Pholis gunnellus	as Murenoides mucronatus
Pomatomus saltatrix	as Pomatomus saltatrix
Hemitripterus americanus	as Hemitripterus acadianus

Fundulus heteroclitus	as Fundulus pisculentus
Fundulus heteroclitus	as Fundulus heteroclitus
Fundulus heteroclitus	as Hydrargyra majalis
Myoxocephalus æneus	as Cottus mitchilli
Myoxocephalus	
octodecimspinosus	as Cottus octodecimspinosus
Lophopsetta maculata	as Lophopsetta maculata
Paralichthys dentata	as Pomatopsetta dentata
Menidia menidia notata	as Chirostoma notata
Apeltes quadracus	as Apeltes quadracus
Gasterosteus aculeatus	as Gasterosteus biaculeatus
Anguilla rostrata	as Anguilla bostoniensis
Gadus callarias	as Gadus morrhua
Sebastes marinus	as Sebastes norvegicus
Osmerus mordax	as Osmerus mordax
Ulvaria subbifurcata	as Eumesogrammus
	subbifureatus
Raia diaphanes (?)	as Raia eglanteria (ocellata)
Melanogrammus æglifinnus	as Melanogrammus æglifinnis
Merluccius bilinearis	as Merlucius bilinearis
Urophycis tenuis	as Phycis tenuis
Microgadus tomcod	as Microgadus tomcod
Lophopsetta maculata	as Liopsetta maculata
Liopsetta putnami	as Pleuronectes glaber
Limanda ferruginea	as Myzopsetta ferruginea (?)
Myoxocephalus grœnlandicus	as Cottus grœnlandicus
Scomber scombrus	as Scomber scombrus
Alosa sapidissima	as Alosa sapidissima

1873a. *U. S. National Museum.*

A salmon (*Salmo sebago*) collected by A. H. Leonard at Sebec Lake, Me., October 24, 1873, is recorded here as *Salmo sebago*.

Record Books of the Department of Fishes, U. S. N. M., Vol. III.

1873b. *U. S. National Museum.*

*Salvelinus oquassa*, recorded here as *Salmo oquassa*, collected by "Sen. Edmonds, and E. G. Blackford". No dates given but probably about 1873.

Record Books of the Department of Fishes, U. S. N. M., Vol. III.

## 1874. STILWELL, E. M., and STANLEY, HENRY O.

Seventh Report of the Commissioners of Fisheries of the State of Maine for the year 1873 (1874).

Cited as Me. F. C. Report, 1874.

List of species:

<i>Salmo salar</i>	as Salmon
<i>Oncorhynchus tshawytscha</i>	as <i>Salmo quinnat</i>
<i>Alosa sapidissima</i>	as Shad
<i>Pomolobus pseudoharengus</i>	as Alewife

## 1874A. STILWELL, E. M., and STANLEY, HENRY O.

Eighth Report of the Commissioners of Fisheries of the State of Maine for the year 1874 (1874).

Also contains report on Bucksport salmon breeding works, by C. G. Atkins.

Cited as Me. F. C. Report, 1874A.

List of species:

<i>Salmo salar</i>	as Salmon
<i>Salmo sebago</i>	as Landlocked salmon
<i>Salvelinus oquassa</i>	as <i>Salmo oquassa</i>

1874b. *U. S. National Museum.*

A smelt (*Osmerus*) collected at Industry, Me., March 31, 1874, is perhaps referable to *Osmerus spectrum*.

Record Books of the Department of Fishes, U. S. N. M., Vol. III.

1874c. U. S. National Museum.

A lake trout (*Salvelinus namaycush*) collected by E. M. Stilwell is recorded as *Salmo toma*. The date is uncertain, but it was probably about 1874.

Record Books of the Department of Fishes, U. S. N. M., Vol. III.

1875. [BOARDMAN, SAMUEL L., and ATKINS, CHARLES G.]

The Menhaden and Herring Fisheries of Maine in Connection with Agriculture.

Maine Board of Agriculture, 1875, with plate, pp. 1-64.

List of species:

Brevoortia tyrannus	as Brevoortia menhaden
Merluccius bilinearis	as Merlucius bilinearis
Pollachius virens	as Pollachius carbonarius
Thunnus thynnus	as Oreynnus secundo-dorsalis
Pomatomus saltatrix	as Pomotomus saltatrix
Clupea harengus	as Clupea elongata
Sebastes marinus	as Sebastes

1875. GOODE, G. BROWN.

Albino Fishes.

American Naturalist, Vol. IX, p. 517.

Mention of *Gadus callarias* as the rosy "rock-cod" of the coast of Maine, and its environment.

1875. STILWELL, E. M., and STANLEY, HENRY O.

Ninth Report of the Commissioners of Fisheries of the State of Maine for the year 1875 (1875).

Cited as Me. F. C. Report, 1875.

List of species:

Salmo salar	as Salmon
Salmo sebago	as Fresh water salmon
Micropterus dolomieu	as Black bass



Salvelinus oquassa	as Salmo oquossa
Salvelinus namaycush	as Togue
Coregonus labradoricus	as Whitefish
Salvelinus fontinalis	as Trout

1875. *U. S. National Museum.*

The nurse shark (*Somniosus microcephalus*) is recorded from Eastport, Me., in 1875.

Record Books of the Department of Fishes, U. S. N. M., Vol. IV.

1875a. *U. S. National Museum.*

A salmon (*Salmo sebago*) collected by Jos. R. Dillingham and Sumner Plummer in Sebago Lake, Raymond, Me., December 10, 1875, is recorded as *Salmo gloveri*.

Record Books of the Department of Fishes, U. S. N. M., Vol. III.

1875b. *U. S. National Museum.*

A smelt collected at Belgrade Mills, Me., by H. W. Golder, February 27, 1875, is recorded as *Osmerus mordax*.

Record Books of the Department of Fishes, U. S. N. M., Vol. III.

1876. STILWELL, E. M., and STANLEY, HENRY O.

Tenth Report of the Commissioners of Fisheries of the State of Maine for the year 1876 (1876).

Cited as Me. F. C. Report, 1876.

List of species:

Salmo salar	as Salmon
Salmo sebago	as Salmo sebago
Micropterus dolomieu	as Black bass
Salmo salar	as Penobscot salmon
Salmo sebago	as Schoodic salmon

1877. EATON, CYRUS, A. M.

Annals of the Town of Warren, in Knox County, Me., with the Early History of St. George's, Broad Bay, and the neighboring settlements on the Waldo Patent.

Second edition, Masters & Livermore, Hallowell.

The matter relating to fishes is apparently similar to that contained in the first edition (see 1851). The table of vernal progress is brought up to 1876.

1877. STILWELL, E. M., and STANLEY, HENRY O.

Eleventh Report of the Commissioners of Fisheries of the State of Maine for 1877 (1877).

Cited as Me. F. C. Report, 1877.

List of species:

Salmo salar	as Salmon
Salmo sebago	as Salmo gloveri/or Salmo sebago
Micropterus dolomieu	as Black bass

1877. *U. S. National Museum.*

Fishes from Grand Lake Stream, Maine, collected by the U. S. Fish Commission in 1877.

Record Books of the Department of Fishes, U. S. N. M., Vol. IV.

List of species:

Salmo sebago	as Salmo sebago
Anguilla rostrata	as Anguilla bostoniensis
Coregonus labradoricus	as Coregonus
Morone americana	as Morone americana
Semotilus bullaris	as Semotillus bullaris
Eupomotus gibbosus	as Eupomotis aureus
Catostomus commersonii	as Catostomus commersonii

*1877a. U. S. National Museum.*

Fishes from Gulf of Maine, collected by U. S. Fish Commission in 1877.

Record Books of the Department of Fishes, U. S. N. M., Vol. IV (?)

## List of species :

Leptoelinus maculatus	as Leptoelinus aculeatus
Limanda ferruginea	as Limanda ferruginea

## 1878. ATKINS, CHARLES G.

On the Collection of Eggs of Schoodic Salmon in 1875 and 1876.

Report U. S. Fish Commission, 1875-1876 (1878), pp. 910-919.

## List of species :

Salmo sebago	as Salmo sebago
Salmo sebago	as Salmo gloveri
Salmo salar	as Salmo salar
Salvelinus fontinalis	as Salmo fontinalis
Salvelinus namaycush	as Salmo toma
Osmerus mordax	as Smelt
Anguilla rostrata	as Eel
	Suckers
	Shiners
	Chubs
	Whitefish
	} are mentioned

## 1878. MADDOCKS, LUTHER.

The Menhaden Fishery of Maine with Statistical and Historical Details, its Relations to Agriculture and as a Direct Source of Human Food, New Processes, Products and Discoveries.

Report of the Secretary of the Association of the Menhaden Oil and Guano Manufactures of Maine, pp. 1-48, 1878.

[*Brevoortia tyrannus* as *Clupea Menhaden*, and *Thunnus thynnus* as Abicore.]

1878. STILWELL, E. M., and STANLEY, HENRY O.

Twelfth Report of the Commissioners of Fisheries of the State of Maine for the year 1878 (1878).

Cited as Me. F. C. Report, 1878.

List of species:

Salvelinus oquassa	as Salmo Oquossa
Notropis cornutus	as Small redfin
Salmo sebago	as Landlocked salmon
Salvelinus fontinalis	as Brook trout
Salvelinus namaycush	as Togue
Lota maculosa	as Cusk
Micropterus dolomieu	as Black bass
Pomolobus pseudoharengus	as Alewife

1878. U. S. National Museum.

Fishes from Bucksport, Maine, collected by U. S. Fish Commission in 1878.

Record Books of the Department of Fishes, U. S. N. M., Vols. IV and V.

List of species:

Pseudopleuronectes	
americanus	as Pseudopleuronectes americanus
Liopsetta putnami	as Pleuronectes glaber
Myoxocephalus grœnlandicus	as Cottus grœnlandicus
Hemitripterus americanus	as Hemitripterus acadianus
Zoarces anguillaris	as Zoarces anguillaris
Cyclopterus lumpus	as Cyclopterus lumpus
Osmerus mordax	as Osmerus mordax

Microgadus tomcod	as Microgadus tomcod
Clupea harengus	as Clupea harengus
Myoxocephalus	
octodecimspinosus	as Cottus octodecimspinosus
Petromyzon marinus	as Petromyzon americanus
Pomolobus pseudoharengus	as Pomolobus vernalis
Pomolobus æstivalis	as Pomolobus æstivalis

## 1878. WASSON, SAMUEL.

## Survey of Hancock County.

Annual Reports Agricultural Societies of Maine for 1877-1878. Bound with Twenty-second Annual Report of the Maine Board of Agriculture for 1877, separately titled and paged. Fisheries at pp. 220-225.

## List of species :

Gadus callarias	as Cod
Pollachius virens	as Pollack
Urophycis tenuis and chuss (?)	
	as Hake
Scomber scombrus	as Mackerel
Clupea harengus	as Herring
Brevoortia tyrannus	as Porgie
Osmerus mordax	as Smelt
Anguilla rostrata	as Eel
Microgadus tomcod	as Frostfish
Pseudopleuronectes	
americanus	as Flounder
Pomolobus pseudoharengus	as Alewife
Salmo salar	as Salmon
Alosa sapidissima	as Shad

## 1879. BEAN, TARLETON H.

On the Identity of *Euchalarodus putnami*, Gill, with *Pleuronectes glaber* (Storer), Gill, with notes on the habits of the species.



Proceedings U. S. National Museum, 1878, Vol. I, pp. 345–348.

List of species:

Liopsetta putnami	as Pleuronectes glaber
Pseudopleuronectes	
americanus	as Pseudopleuronectes americanus

1879. GOODE, G. BROWN, and BEAN, TARLETON H.

A list of the Fishes of Essex County, Mass.

Bulletin Essex Institute, 1879, Vol. XI, pp. 2–38.

List of species:

Myoxocephalus scorpius	as Cottus scorpius
Anarrhichas minor	as Anarrhichas minor
Lycenchelys verrillii	as Lycodes Verrillii
Scomberomorus maculatus	as Cybium maculatum
Scomberesox saurus	as Scomberesox saurus
Raia diaphanes	as Raia ocellata

1879. GOODE, G. BROWN.

The Natural and Economical History of the American Menhaden.

Report U. S. Fish Commission, 1876–1877, pp. 1–529.  
[*Brevoortia tyrannus*.]

1879. STILWELL, E. M., and SMITH, EVERETT.

Report of the Commissioner [s] of Fisheries of the State of Maine for the year 1879.

Cited as Me. F. C. Report, 1879.

List of species:

Salmo salar	as Salmon
Osmerus mordax	as Smelt
Salvelinus fontinalis	as Trout
Salmo sebagi	as Landlocked salmon
Pomolobus pseudoharengus	as Alewife

## 1879. U. S. National Museum.

A butterfish (*Poronotus triacanthus*) collected off Seguin, Maine, 50 fathoms, by Charles Buckley.

Record books of the Department of Fishes, U. S. N. M., Vol. V.

## 1879a. U. S. National Museum.

Whitefish (*Coregonus labradoricus*) collected at Moosehead Lake, Maine, by E. G. Blackford, 1879.

Record books of the Department of Fishes, U. S. N. M., Vol. V.

## 1880. ATKINS, CHARLES G.

Report on an Attempt to Collect Eggs of Sebago Salmon in 1878.

Report U. S. Fish Commision, 1878 (1880), pp. 775-787.

List of species :

Salmo sebago	as Salmo sebago
Salvelinus fontinalis	as Salmo fontinalis
Catostomus commersonii	as Suckers
Anguilla rostrata	as Eel

## 1880. BAIRD, SPENCER F.

Report of the Commissioner.

Report U. S. Fish Commission, 1878, pp. xviii-xxxv.  
[*Salmo salar* as *Salmo salar* and *Salmo sebago* as *Salmo salar* Sebago.]

## 1880. BEAN, TARLETON H.

Description of an Apparently New Species of Gasterosteus (*G. Atkinsii*), from the Schoodic Lakes, Maine.

Proceedings U. S. National Museum, 1879, Vol. II, pp. 67-69.

1880. Kendall, W. C.

Collection made at Sabattus Pond, summer of 1880.

List of species:

*Ameiurus nebulosus*, *Salvelinus fontinalis*, *Lepomis gibbosus*.

1880. LEE, L. A.

Occurrence of the Web-fingered Sea Robin [*Prionotus carolinus*] on the coast of Maine.

American Naturalist, Vol. XIV, p. 896 (December, 1880).

1880. STILWELL, E. M., and SMITH, EVERETT.

Report of the Commissioners of Fisheries and Game of the State of Maine, 1880 (1880.)

Cited as Me. F. C. Report, 1880.

List of species:

Salmo salar	as Salmon
Salvelinus fontinalis	as Trout
Coregonus clupeaformis	as Michigan whitefish
Pomolobus	as Alewife
Alosa sapidissima	as Shad
Petromyzon marinus	as Lamprey
Anguilla rostrata	as Eel
Salmo irridea*	as California trout
Osmerus mordax	as Smelt
Lota maculosa	as Cusk or ling

1880. U. S. National Museum.

Miscellaneous records.

Record Books of the Department of Fishes, U. S. N. M., Vol. VI.

List of species:

Salmo sebago	as Salmo salar
Lepomis auritus	as Ichthelis appendix

\*Introduced.

1881. BEAN, TARLETON H.

Check-list of Duplicates of North American Fishes, distributed by the Smithsonian Institution in behalf of the United States National Museum, 1877-1880.

Proceedings U. S. National Museum, 1880, Vol. III, pp. 75-116.

List of species :

<i>Liopsetta putnami</i>	as <i>Pleuronectes glaber</i>
<i>Lophopsetta maculata</i>	as <i>Lophopsetta maculata</i>
<i>Pollachius virens</i>	as <i>Pollachius carbonarius</i>
<i>Microgadus tomcod</i>	as <i>Microgadus tomcodus</i>
<i>Urophycis tenuis</i>	as <i>Phycis tenuis</i>
<i>Merluccius bilinearis</i>	as <i>Merluccius bilinearis</i>
<i>Zoarces anguillaris</i>	as <i>Zoarces anguillaris</i>
<i>Pholis gunnellus</i>	as <i>Murenoides gunnellus</i>
<i>Myoxocephalus</i>	
<i>oetodecimspinosus</i>	as <i>Cottus oetodecimspinosus</i>
<i>Myoxocephalus scorpius</i>	as <i>Cottus scorpius</i>
<i>Hemitripterus americanus</i>	as <i>Hemitripterus americanus</i>
<i>Sebastes marinus</i>	as <i>Sebastes marinus</i>
<i>Tautogolabrus adspersus</i>	as <i>Tautogolabrus adspersus</i>
<i>Scomber scombrus</i>	as <i>Scomber scombrus</i>
<i>Poronotus triacanthus</i>	as <i>Poronotus triacanthus</i>
<i>Menidia menidia notata</i>	as <i>Chirostoma menidium</i>
<i>Osmerus mordax</i>	as <i>Osmerus mordax</i>
<i>Salmo sebago</i>	as <i>Salmo salar sebago</i>
<i>Alosa sapidissima</i>	as <i>Alosa sapidissima</i>
<i>Pomolobus pseudoharengus</i>	as <i>Pomolobus pseudoharengus</i>
<i>Squalus acanthias</i>	as <i>Squalus acanthias</i>
<i>Clupea harengus</i>	as <i>Clupea harengus</i>
<i>Anguilla rostrata</i>	as <i>Anguilla rostrata</i>

1882 and 1883. Benner, Captain.

While purse-seining mackerel, caught a lot of this species (*Prionotus carolinus*) off Monhegan Island, 1882 and 1883.

1882. STANLEY, HENRY O.

Report of the Commissioner of Fisheries and Game of the State of Maine for the year 1881 (1882).

Cited as Me. F. C. Report, 1882.

List of species :

Salmo salar	as Salmon
Alosa sapidissima	as Shad
Micropterus dolomieu	as Black Bass
Pomolobus pseudoharengus	as Alewife
Coregonus	as Whitefish

1882A. STANLEY, HENRY O.

Report of the Commissioner of Inland Fisheries and Game of the State of Maine, 1882 (1882).

Cited as Me. F. C. Report, 1882A.

List of species :

Salmo salar	as Salmon
Salmo sebago	as Landlocked salmon

1883. HANNA, S. W.

Description of an Eel-like Creature taken in a Net at New Harbor, Maine, in 1880.

Bulletin U. S. Fish Commission, 1883, Vol. III, pp. 407-409.

[The animal described is doubtfully referred to as *Chlamydoselachus anguineus*.]

1883. Kendall, W. C.

*Semotilus bullaris* and *Esox reticulatus* were collected by W. C. Kendall in Umbagog Lake in 1883.



1883. STILWELL, E. M., and STANLEY, HENRY O.

Report of the Commissioners of Fisheries and Game of the State of Maine for the year 1883 (1883).

Cited as Me. F. C. Report, 1883.

List of species:

Salmo salar	as Salmon
Salmo sebago	as Landlocked salmon
Micropterus dolomieu	as Black bass

1883. *U. S. National Museum.*

Fishes from Auburn, Maine, collected by G. P. Merrill in August, 1883.

Record Books of the Department of Fishes, U. S. N. M., Vol. VII.

List of species:

Ameiurus nebulosus	as Ameiurus nebulosus
Perca flavescens	as Perca americana
Lepomis gibbosus	as Lepomis gibbosus
Cottus gracilis	as Uranidea gracilis
Rhinichthys atronasmus	as Rhinichthys atronasmus
Semotilus bullaris	as Semotilus bullaris
Abramis crysoleucas	as Notemigonus chrysoleucas
Chrosomus erythrogaster	as Chrosomus erythrogaster
Semotilus atromaculatus	as Semotilus corporalis

1884. ATKINS, CHARLES G.

Memoranda Relative to Inclosures for the Confinement of Salmon [*Salmo salar*] Drawn from Experience at Bucksport, Penobscot River, Maine.

Bulletin U. S. Fish Commission, 1884 (1884), Vol. IV, pp. 170-174.

1884A. ATKINS, CHARLES G.

Memoranda on Landlocked Salmon.

Bulletin U. S. Fish Commission, 1884, Vol IV, .pp. 341-344  
[*Salmo sebago*].

1884B. ATKINS, CHARLES G.

Ten Questions Concerning the Habits of and Breeding of  
Landlocked Salmon, with Replies.

Bulletin U. S. Fish Commission, 1884 (1884), Vol. IV,  
pp. 383, 384. [*Salmo sebago*.]

1884C. ATKINS, CHARLES G.

Notes on Landlocked Salmon.

Transactions of the American Fish-Cultural Association,  
1884, pp. 40-54. [*Salmo sebago*.]

1884. GOODE, G. BROWN.

Fisheries and Fishery Industries of the United States,  
Section I, Text, 1884.

List of species:

Lophius piscatorius	as Lophius piscatorius
Pseudopleuronectes	
americanus	as Pseudopleuronectes americanus
Lophopsetta maculata	as Rhombus maximus
Hippoglossus hippoglossus	as Hippoglossus vulgaris
Gadus callarias	as Gadus morrhua
Melanogrammus æglefinus	as Melanogrammus æglefinus
Pollachius virens	as Pollachius carbonarius
Brosmius brosme	as Brosmius brosme
Urophycis	as Hake, Phycis chuss, etc.
Lota maculosa	as Lota maculosa
Zoarces anguillaris	as Zoarces anguillaris
Anarrhichas lupus	as Anarrhichas lupus
Myoxocephalus	
octodecemspinosus	as Cottus octodecemspinosus
Sebastes marinus	as Sebastes marinus

Tautogolabrus adspersus	as Ctenolabrus adspersus
Scomber scombrus	as Scomber scombrus
Scomberomorus maculatus	as Scomberomorus maculatus
Poronotus triacanthus	as Stromateus triacanthus
Xiphias gladius	as Xiphias gladius
Lepomis gibbosus	as Lepomis gibbosus
Lepomis auritus	as Lepomis auritus
Pomatomus saltatrix	as Pomatomus saltatrix*
Salmo salar	as Salmo salar
Salvelinus namaycush	as Salvelinus namaycush
Salvelinus fontinalis	as Salvelinus fontinalis
Salvelinus oquassa	as Bluebacked or Oquassa trout
Osmerus mordax	as Osmerus mordax
Clupea harengus	as Clupea harengus
Brevoortia tyrannus	as Brevoortia tyrannus
Pomolobus pseudoharengus	as Pomolobus pseudoharengus
Alosa sapidissima	as Clupea sapidissima
Pomolobus mediocris	as Clupea mediocris
Erimyzon oblongus	as Erimyzon sucetta
Cetorhinus maximus	as Cetorhinus maximus
Carcharodon carcharias	as Carcharodon carcharias
Squalus acanthias	as Squalus acanthias

1884. GOODE, G. BROWN, COLLINS, JOSEPH W., EARLL, R. E., and CLARK, A. HOWARD.

Material for a History of the Mackerel Fishery.

Report U. S. Fish Commission, 1881 (1884), pp. 91-531.  
[*Scomber scombrus*.]

1884. JORDAN, DAVID S., and GILBERT, CHARLES H.  
A Review of the American Caranginae.

Proceedings U. S. National Museum, 1883, Vol. VI, pp.  
188-207. [*Vomer setapinnis* as *Caranx setipinnis*.]

\*Cited on the authority of Josselyn, 1672.

1884. PAGE, GEORGE SHEPHARD.

Black Bass in Maine.

Transactions of American Fish-cultural Association.  
Thirteenth Annual Meeting, 1884, pp. 57-60. [*Micropterus*  
*dolomieu*.]

1884. STILWELL, E. M., and STANLEY, HENRY O.

Report of the Commissioners of Fisheries and Game of the  
State of Maine for the year 1884 (1884).

Cited as Me. F. C. Report, 1884.

List of species :

Salmo salar	as Salmon
Salmo sebago	as Landlocked salmon
Salvelinus fontinalis	as Trout
Coregonus	as Whitefish
Pomolobus pseudoharengus	as Alewife
Brevoortia tyrannus	as Porgie

1884. U. S. National Museum.

Miscellaneous records.

Record Books of the Department of Fishes, U. S. N. M.,  
Vol. VI.

List of species :

Salvelinus oquassa	as Salvelinus oquassa
Salmo sebago	as Salmo salar sebago
Salvelinus fontinalis	as Salvelinus fontinalis

1885. LEE, LESLIE A.

The Fishes of Casco Bay.

Read before Portland Society of Natural History.

Portland Advertiser, March 3, 1885, and Brunswick Tele-  
graph, Friday, March 13, 1885.

NOMINAL SPECIES.	IDENTIFICATION.
1. Goosefish	<i>Lophius piscatorius</i>
2. Pipefish	<i>Siphostoma fuscum</i>
3. Two-spined stickleback	<i>Gasterosteus aculeatus</i>
4. Many-spined stickleback	<i>Pungitius pungitius</i>
5. Flatfish or flounder	<i>Pseudopleuronectes americanus</i>
6. Cod	<i>Gadus callarias</i>
7. Pollack	<i>Pollachius virens</i>
8. Tomcod	<i>Microgadus tomcod</i>
9. Haddock	<i>Melanogrammus æglefinus</i>
10. Hake	<i>Europhycis tenuis</i> or <i>chuss</i> or both
11. Cusk	<i>Brosmius brosme</i>
12. Muttonfish	<i>Zoarces anguillaris</i>
13. Wry mouth	<i>Cryptacanthodes maculatus</i>
14. Ghostfish	<i>Cryptacanthodes maculatus</i>
15. Rock-eel	<i>Pholis gunnellus</i>
16. Wolf or catfish	<i>Anarhichas lupus</i>
17. Lumpfish	<i>Cyclopterus lumpus</i>
18. Gurnard	<i>Prionotus carolinus</i>
19. Sculpin	<i>Myoxocephalus octodecimspinosus</i>
20. Grubby or small sculpin	<i>Myoxocephalus æneus</i>
21. Sea raven	<i>Hemitripterus americanus</i>
22. Redfish or bream	<i>Sebastes marinus</i>
23. Tautog	<i>Tautoga onitis</i>
24. Cunner	<i>Tautoglabrus adspersus</i>
25. Mackerel	<i>Scomber scombrus</i>
26. Dollarfish	<i>Poronotus triacanthus</i>
27. Butterfish	<i>Pholis gunnellus</i>
28. Kingfish	<i>Menticirrhus saxatilis</i>
29. Striped bass	<i>Roccus lineatus</i>
30. White perch	<i>Morone americana</i>
31. Bluefish	<i>Pomotomus saltatrix</i>
32. Sand eel	<i>Ammodytes americanus</i>
33. Silversides	<i>Menidia menidia notata</i>
34. Mummichog or minnow	<i>Fundulus heteroclitus</i>
35. Smelt	<i>Osmerus mordax</i>
36. Salmon	<i>Salmo salar</i>
37. Trout	<i>Salvelinus fontinalis</i>
38. Herring	<i>Clupea harengus</i>
39. Shad	<i>Alosa sapidissima</i>
40. Alewife	<i>Pomolobus pseudoharengus</i>
41. Blueback	<i>Pomolobus aestivalis</i>
42. Menhaden or porgie	<i>Brevoortia tyrannus</i>
43. Eel	<i>Anguilla rostrata</i>



44. Sharp-nosed sturgeon	Acipenser sturio
45. Skate	Raia erinacea
46. Spiny skate	Raia radiata
47. Dusky shark	Carcharias littoralis
48. Dogfish	Squalus acanthias
49. Lamprey eel	Petromyzon marinus

1885. MATHER, FRED.

Protecting and Hatching the Smelt.

Transactions of the American Fisheries Society, 1885, pp. 17-32.

[Mentions "the big smelts", "little smelts", and "*Osmerus viridescens* or saltwater smelt", making an article entitled, "Torching for Smelts", in Forest and Stream by "A gentleman from North Bridgton".]

1886. COUNCE, B. W.

Report of the Commissioner of Sea and Shore Fisheries of the State of Maine, 1886.

Cited as Me. S. and S. F. Report, 1886.

List of species:

Scomber scombrus	as Mackerel
Osmerus mordax	as Smelt
Pomolobus pseudoharengus	as Alewife

1886. EIGENMANN, CARL H.

A Review of the American Gasterosteidae.

Proceedings Academy of Natural Sciences of Philadelphia, 1886, pp. 233-252. [*Gasterosteus atkinsii*.]

1886. GOOLD, WILLIAM.

Portland in the Past, with Historical Notes of Old Fal-mouth.

Printed for the author by B. Thurston & Company, Portland, Maine.

Scattered notes on the extent, value and history of the early fisheries, particularly the sturgeon fishery, which was once of some importance in southwestern Maine.

1886. STILWELL, E. M., and STANLEY, HENRY O.

Report of the Commissioners of Fisheries and Game of the State of Maine for the year 1886 (1886).

Cited as Me. F. C. Report, 1886.

List of species :

<i>Salmo salar</i>	as Sea salmon
<i>Salmo sebago</i>	as Landlocked salmon
<i>Micropterus dolomieu</i>	as Black bass

1887. ATKINS, C. G.

The River Fisheries of Maine.

The Fisheries and Fishery Industries of the United States, 1887, Section V, Part I, pp. 673-728.

List of species :

<i>Acipenser sturio</i>	as <i>Acipenser sturio</i>
<i>Anguilla rostrata</i>	as <i>Anguilla rostrata</i>
<i>Clupea harengus</i>	as Herring
<i>Pomolobus pseudoharengus</i>	as <i>Clupea vernalis</i>
<i>Pomolobus æstivalis</i>	as Blueback
<i>Alosa sapidissima</i>	as <i>Clupea sapidissima</i>
<i>Salmo salar</i>	as <i>Salmo salar</i>
<i>Osmerus mordax</i>	as <i>Osmerus mordax</i>
<i>Perca flavescens</i>	as Perch
<i>Roccus lineatus</i>	as <i>Roccus lineatus</i>
<i>Microgadus tomcod</i>	as Tomcod
<i>Gadus callarias</i>	as Cod

1887. COLLINS, JOSEPH W., and RATHBUN, RICHARD.

The Sea Fishing Grounds of the East Coast of North America from Greenland to Mexico.

The Fisheries and Fishery Industries of the United States,  
1887, Section III, pp. 5-78.

List of species :

<i>Urophycis tenuis</i>	as Hake
<i>Gadus callarias</i>	as Cod, rock cod
<i>Pollachius virens</i>	as Pollack
<i>Melanogrammus æglefinus</i>	as Haddock
<i>Brosmius brosme</i>	as Cusk
<i>Clupea harengus</i>	as Herring
<i>Scomber scombrus</i>	as Mackerel

1887. *U. S. National Museum.*

Fishes from Casco Bay, Maine, collected by Capt. Geo.  
Douglass, Schooner Constitution.

Record Books of the Department of Fishes, U. S. N. M.,  
Vol. IX.

List of species :

<i>Cyclopterus lumpus</i>	as Cyclopterus lumpus
<i>Shipostoma fuscum</i>	as Siphostoma fuscum
<i>Poronotus triacanthus</i>	as Stromateus triacanthus
<i>Selene vomer</i>	as Selene vomer

1888. COUNCE, B. W.

Report of the Commissioner of Sea and Shore Fisheries of  
the State of Maine, 1888.

Cited as Me. S. and S. F. Report, 1888.

List of species :

<i>Scomber scombrus</i>	as Mackerel
<i>Osmerus mordax</i>	as Smelt
<i>Brevoortia tyrannus</i>	as Menhaden
<i>Pomolobus</i>	as Alewife
<i>Salmo salar</i>	as Sea salmon
<i>Clupea harengus</i> (Young)	as Sardine

1888. STILWELL, E. M., and STANLEY, HENRY O.

Report of the Commissioners of Fisheries and Game of the State of Maine for the year 1888 (1888).

Cited as Me. F. C. Report, 1888.

List of species :

Salmo salar	as Sea salmon
Salmo sebago	as Landlocked salmon
Micropterus dolomieu	as Black bass
Morone americana	as White perch

1890. Hatch, Dr. William C.

A specimen of *Coregonus quadrilateralis* from Clear-water Pond, Industry, Maine, April 9, 1890, was received from Dr. Hatch by the U. S. Fish Commission for identification.

1890. U. S. Fish Commission.

In the reserve series of the U. S. Fish Commission there is a very large specimen of a female pipefish (*Siphostoma fuscum*), sent from Eastport by Mr. C. W. Hume. No date is on the label, but it was probably about 1890. It is the largest specimen of pipefish we have ever seen on the Atlantic coast of the United States.

1891. COUNCE, B. W.

Report of the Commissioner of Sea and Shore Fisheries of the State of Maine, 1889-1890 (1891).

Cited as Me. S. and S. F. Report, 1891.

List of species:

Scomber scombrus	as Mackerel
Brevoortia tyrannus	as Menhaden
Pomolobus	as Alewife
Osmerus mordax	as Smelt

1891. STILWELL, E. M., and STANLEY, HENRY O.

Report of the Commissioners of Fisheries and Game of the State of Maine, for the years 1889-1890 (1891).

Cited as Me. F. C. Report, 1891.

List of species:

<i>Salmo salar</i>	as Salmon
<i>Salmo sebago</i>	as Landlocked salmon

1892. GARMAN, S.

The Discoboli. Cyclopteridæ, Liparapsidæ, and Liparididæ, with 13 plates.

Memoirs of the Museum of Comparative Zoölogy, 1892, Vol. XIV, No. 2, pp. 1-96.

List of species:

<i>Eumicrotremus spinosus</i>	as <i>Eumicrotremus spinosus</i>
<i>Neoliparis atlanticus</i>	as <i>Liparis montagui</i>
<i>Liparis liparis</i>	as <i>Liparis liparis</i>

1892. Kendall, W. C.

During the summer of 1892, a small collection of the fishes of Casco Bay was made by W. C. Kendall, while making a special study of menhaden. The following species were taken:

*Anguilla rostrata*, *Clupea harengus*, *Pomolobus pseudoharengus*, *Pomolobus æstivalis*, *Alosa sapidissima*, *Brevoortia tyrannus*, *Fundulus heteroclitus*, *Menidia menidia notata*, *Scomber scombrus*, *Tautogolabrus adspersus*, *Myoxocephalus scorpius*, *Myoxocephalus grænlanticus*, *Myoxocephalus octodecimspinosus*, *Pholis gunnellus*, *Pollachius virens*, *Gadus callarias*, *Pseudopleuronectes americanus*, *Liopsetta putnami*.

1892. GOULD, EDWIN W.

[Report of the Commissioner of Sea and Shore Fisheries for the years 1891-1892, pp. (17)-44 in,]



Report of the Commissioners of Fisheries and Game of the State of Maine for the years 1891-1892 (1892).

Cited as Me. S. and S. F. Report, 1892.

List of species :

Scomber scombrus	as Mackerel
Brevoortia tyrannus	as Menhaden
Roccus lineatus	as Roccus lineatus
Alosa sapidissima	as Shad

1892. STILWELL, E. M., and STANLEY, HENRY O.

Report of the Commissioners of Fisheries and Game of the State of Maine for the years 1891-1892 (1892).

Cited as Me. F. C. Report, 1892.

List of species :

Salmo salar	as Sea salmon
Salmo sebago	as Landlocked salmon

1892. U. S. National Museum.

Record Books of the Department of Fishes, U. S. N. M., Vol. IX.

[*Fundulus heteroclitus*.]

1893. Kendall, W. C.

Collections made at Eastport, Maine, Summer of 1893.

List of species :

*Myxine glutinosa*, *Alopias vulpes*, *Clupea harengus*, *Pseudopleuronectes americanus*, *Pomolobus pseudoharengus*, *Pomolobus aestivalis*, *Alosa sapidissima*, *Salmo salar* (Denny's River), *Osmerus mordax*, *Fundulus heteroclitus*, *Gasterosteus aculeatus*, *Menidia menidia notata*, *Ammodytes americanus*, *Thunnus thynnus*, *Sebastes marinus*, *Myoxocephalus octodecimspinosus*, *Myoxocephalus scorpius*, *Myoxocephalus grænlandicus*, *Hemitripterus americanus*, *Aspidophoroides monopterygius*, *Cyclopterus lumpus*, *Pholis gunnellus*, *Cryptacanthodes maculatus*, *Anarhichas*

*lupus*, *Zoarces anguillaris*, *Merluccius bilinearis*, *Pollachius virens*, *Microgadus tomcod*, *Gadus callarias*, *Melanogrammus aeglefinus*, *Urophycis tenuis*, *Urophycis chuss*, *Enchelyopus cimbrius* (at Jonesport), *Brosmius brosme*, *Macrourus bairdi*, *Pseudopleuronectes americanus*, *Lophius piscatorius*.

1894. KENDALL, W. C.

Notes on the Fresh-water Fishes of Washington County, Maine.

Bulletin U. S. Fish Commission, 1894 (1895), Vol. XIV, pp. 43-54.

List of species:

<i>Catostomus commersonii</i>	as <i>Catostomus teres</i>
<i>Notropis cornutus</i>	as <i>Notropis megalops</i>
<i>Semotilus bullaris</i>	as <i>Semotilus bullaris</i>
<i>Fundulus diaphanus</i>	as <i>Fundulus diaphanus</i>
<i>Anguilla rostrata</i>	as <i>Anguilla chrysypa</i>
<i>Lepomis gibbosus</i>	as <i>Lepomis gibbosus</i>
<i>Perca flavescens</i>	as <i>Perca flavescens</i>
<i>Abramis crysoleucas</i>	as <i>Notemigonus crysoleucas</i>
<i>Osmerus mordax</i>	as <i>Osmerus mordax</i>
<i>Esox reticulatus</i>	as <i>Lucius reticulatus</i>
<i>Micropterus dolomieu</i>	as <i>Micropterus dolomieu</i>
<i>Rhinichthys atronasmus</i>	as <i>Rhinichthys atronasmus</i>
<i>Pomolobus æstivalis</i>	as <i>Clupea æstivalis</i>
<i>Salmo salar</i>	as <i>Salmo salar</i>
<i>Salmo sebago</i>	as <i>Salmo salar sebago</i>
<i>Salvelinus fontinalis</i>	as <i>Salvelinus fontinalis</i>
<i>Pungitius pungitius</i>	as <i>Pygosteus pungitius</i>
<i>Ameiurus nebulosus</i>	as <i>Ameiurus nebulosus</i>
<i>Salvelinus namaycush</i>	as Togue
<i>Coregonus labradoricus</i>	as Whitefish
<i>Morone americana</i>	as White perch

1894. KENDALL, W. C., and SMITH, HUGH M.

Extension of the Recorded Range of Certain Marine and Fresh-water Fishes of the Atlantic Coast of the United States.

Bulletin U. S. Fish Commission, 1894 (1895), Vol. XIV, pp. 15-21.

List of species:

*Chrosomus erythrogaster*

*Couesius plumbeus*

*Semotilus atromaculatus*

*Fundulus diaphanus*

*Salvelinus fontinalis*

*Catostomus commersonii* as *Catostomus teres*

*Notropis cornutus* as *Notropis megalops*

*Rhinichthys atronasmus*

*Semotilus bullaris*

*Pungitius pungitius* as *Pygosteus pungitius*

1894. WENTWORTH, THOMAS H., and STANLEY, HENRY O.

Report of the Commissioners of Inland Fisheries and Game of the State of Maine for the years 1893-1894 (1894).

Cited as Me. F. C. Report, 1894.

List of species:

*Salmo sebago* as Landlocked salmon

*Salvelinus fontinalis* as Trout

*Salmo salar* as Sea salmon

1894. WHITTEN, ORIN B.

[Report of the Commissioner of Sea and Shore Fisheries for the years 1893-1894, pp. (29)-38 in,]

Report of the Commissioners of Fisheries and Game of the State of Maine for the years 1893-1894 (1894).

Cited as Me. S. and S. F. Report, 1894.

## List of species:

<i>Clupea harengus</i>	as Herring
<i>Scomber scombrus</i>	as Mackerel
<i>Osmerus mordax</i>	as Smelt
<i>Brevoortia tyrannus</i>	as Menhaden

1895. HATCH, G. M.

Big Fish in Franklin County.

Maine Sportsman, 1895, Vol. II, August 7. [*Salvelinus namaycush* as *Salmo namaycush*.]

1895a. Kendall, W. C.

A small collection of fishes made in Chickawaka Lake and tributaries, Rockland, August 24, 1895, is referred to in the catalogue as Kendall Coll., 1895a.

## List of species:

*Micropterus dolomieu*, *Lepomis gibbosus*, *Fundulus diaphanus*, *Apeltes quadracus*, *Rhinichthys atronasmus*, *Anguilla rostrata*, *Esox reticulatus*, *Catostomus commersonii*, *Abramis crysoleucas*, *Notropis cornutus*.

1895b. Kendall, W. C.

A collection of marine fishes made off the coast of Maine, while the writer was serving as naturalist of the U. S. Fish Commission, Schooner Grampus, summer of 1895, is mentioned in the catalogue as Kendall Coll., 1895b.

## List of species:

*Gasterosteus aculeatus*, *Gasterosteus bispinosus*, *Cyclopterus lumpus*, *Gadus callarius*, *Scomber scombrus*, *Scomber colias*, *Pomolobus mediocris*, *Pomolobus pseudoharengus*, *Pomolobus æstivalis*, *Alosa sapidissima*, *Siphostoma fuscum*, *Urophycis chuss* or *tenuis*, *Vulpecula marina*, *Isurus punctatus*.

1895. SARGENT, H. W.

Big Fish at Schoodic.

Maine Sportsman, 1895, Vol. II, p. 1.

[*Salvelinus namaycush* as togue.]

1896A. CARLETON, LEROY T., STANLEY, HENRY O.,  
and OAK, CHARLES E.

Report of the Commissioners of Inland Fisheries and Game  
for the State of Maine for the year 1896 (1896).

Cited as Me. F. C. Report, 1896A. See 1896. Went-  
worth *et als.*

List of species:

<i>Salmo sebago</i>	as Salmon
<i>Salvelinus fontinalis</i>	as Trout
<i>Salmo gairdneri</i> *	as Steelhead trout
<i>Salmo salar</i>	as Atlantic salmon
<i>Salmo sebago</i>	as Landlocked salmon
<i>Salmo fario</i> *	as Brown trout
<i>Morone americana</i>	as White perch
<i>Micropterus dolomieu</i>	as Black bass

1896. EVERMANN, BARTON W., and SMITH, HUGH M.  
The Whitefishes of North America.

Report U. S. Fish Commission, 1894 (1896), pp. 283-  
324. [*Coregonus labradoricus* and *Coregonus quadrilateralis*.]

1896. GOODE, GEORGE BROWN, and BEAN, TARLETON  
H.

Oceanic Ichthyology, A Treatise on the Deep-sea and  
Pelagic Fishes of the World, based chiefly upon the collec-  
tions made by the Steamers Blake, Albatross and Fish Hawk  
in the Northwestern Atlantic, with an Atlas containing 417  
figures (1895).

\*Introduced.



## List of species :

*Chlamydoselachus anguineus* (?), *Cetorhinus maximus*, *Anarchichas minor*, *Glyptocephalus cynoglossus*, *Argentina silus*.

1896. JORDAN, DAVID STARR, and EVERMANN, BARTON WARREN.

The Fishes of North and Middle America [four parts].

Bulletin 47, U. S. National Museum, 1896, Part I, pp. 1-1240.

## List of species :

<i>Ameiurus nebulosus</i>	as <i>Ameiurus nebulosus</i>
<i>Chrosomus erythrogaster</i>	as <i>Chrosomus erythrogaster</i>
<i>Semotilus atromaculatus</i>	as <i>Semotilus atromaculatus</i>
<i>Anguilla rostrata</i>	as <i>Anguilla chrysypa</i>
<i>Clupea harengus</i>	as <i>Clupea harengus</i>
<i>Salmo sebago</i>	as <i>Salmo salar sebago</i>
<i>Salvelinus aureolus</i>	as <i>Salvelinus alpinus aureolus</i>
<i>Salvelinus oquassa</i>	as <i>Salvelinus oquassa</i>
<i>Osmerus spectrum</i>	as <i>Osmerus mordax spectrum</i>
<i>Osmerus abbottii</i>	as <i>Osmerus mordax abbottii</i>
<i>Argentina silus</i>	as <i>Argentina silus</i>
<i>Fundulus heteroclitus</i>	as <i>Fundulus heteroclitus</i>
<i>Gasterosteus atkinsii</i>	as <i>Gasterosteus bispinosus</i> atkinsii
<i>Apeltes quadracus</i>	as <i>Apeltes quadracus</i>
<i>Scomber colias</i>	as <i>Scomber colias</i>
<i>Vomer setipinnis</i>	as <i>Vomer setipinnis</i>
<i>Lampris luna</i>	as <i>Lampris luna</i>
<i>Poronotus triacanthus</i>	as <i>Rhombus triacanthus</i>
<i>Lepomis auritus</i>	as <i>Lepomis auritus</i>
<i>Lepomis gibbosus</i>	as <i>Eupomotis gibbosus</i>

1896. Kendall, W. C.

Collections made at Small Point, Casco Bay, from June 23 to July 15, at Rockland and Vinal Haven, July 22, and off Monhegan Island, August 17, 1896, by W. C. Kendall, while serving as naturalist on board the U. S. Fish Commission Schooner Grampus.

List of species:

*Petromyzon marinus*, *Carcharias taurus*, *Raia erinacea*, *Raia diaphanes*, *Narcacion nobilianus*, *Acipenser sturio*, *Ulupea harengus*, *Pomolobus mediocris*, *Pomolobus pseudoharengus*, *Pomolobus aestivalis*, *Alosa sapidissima*, *Brevoortia tyrannus*, *Salmo salar*, *Osmerus mordax*, *Scomberesox saurus*, *Anmodytes americanus*, *Scomber scombrus*, *Scomber colias*, *Pomatomus saltatrix*, *Poronotus triacanthus*, *Roccus lineatus*, *Centropristes striatus*, *Stenotomus chrysops*, *Tautogolabrus adspersus*, *Tautoga onitis*, *Spheroides maculatus*, *Myoxocephalus octodecimspinosus*, *Hemitripterus americanus*, *Cyclopterus lumpus*, *Zoarces anguillaris*, *Prionotus carolinus*, *Merluccius bilinearis*, *Pollachius virens*, *Gadus callarias*, *Melanogrammus aeglefinus*, *Urophycis tenuis*, *Urophycis chuss*, *Lophopsetta maculata*, *Pseudopleuronectes americanus*, *Lophius piscatorius*, *Gasterosteus aculeatus*, *Gasterosteus bispinosus*.

1896. KENDALL, W. C.

Description of a New Stickleback, *Gasterosteus gladiunculus*, from the Coast of Maine.

Proceedings U. S. National Museum, 1895 (1896), Vol. XVIII, pp. 623, 624.

List of species:

<i>Gasterosteus bispinosus</i>	as <i>Gasterosteus gladiunculus</i> (type)
<i>Gasterosteus aculeatus</i>	as <i>Gasterosteus bispinosus</i>
<i>Urophycis chuss</i> or <i>tenuis</i>	as <i>Phycis chuss</i> or <i>tenuis</i>
<i>Siphostoma fuscum</i>	as <i>Siphostoma fuscum</i>

1896. WENTWORTH, THOMAS H., STANLEY, HENRY O.,  
and OAK, CHARLES E.

Report of the Commissioners of Inland Fisheries and Game  
of the State of Maine for the year 1895 (1896).

Cited as Me. F. C. Report, 1896. See 1896A. Carleton  
*et als.*

List of species:

Salmo salar	as Atlantic salmon
Salmo sebago	as Landlocked salmon
Salvelinus fontinalis	as Brook trout
Salmo fario*	as Brown trout
Osmerus mordax	as Smelt

1897A. KENDALL, WILLIAM C.

Notes on the Food of Four Species of the Cod Family.

Report U. S. Fish Commission, 1896 (1897), pp. 177-186.

List of species:

*Gadus callarias*, *Pollachius virens*, *Urophycis tenuis*, *Melanogrammus æglefinus*.

1897. MOORE, H. F.

Observations upon the Herring and Herring Fisheries of  
the Northeast Coast, with Special Reference to the Vicinity  
of Passamaquoddy Bay.

Report U. S. Fish Commission, 1896 (1897), pp. 387-442.

List of species:

Clupea harengus	as Clupea harengus
Gadus callarias	as Cod
Melanogrammus æglefinus	as Haddock
Pollachius virens	as Pollack
Urophycis tenuis	as Hake
Merluccius bilinearis	as Silver hake
Squalus acanthias	as Dogfish
Thunnus thynnus	as Albacore

\*Introduced.

1897. RATHBUN, RICHARD, and WAKEHAM, WM.

Preservation of the Fisheries in the Waters Contiguous to the United States and Canada.

House of Representatives Document, 54th Congress, 2nd Session, 1897, pp. 1-178.

List of species:

<i>Salmo salar</i>	as <i>Salmo salar</i>
<i>Pomolobus pseudoharengus</i>	as <i>Pomolobus pseudoharengus</i>
<i>Salvelinus fontinalis</i>	as <i>Salvelinus fontinalis</i>
<i>Salvelinus namaycush</i>	as <i>Cristivomer namaycush</i>
<i>Salmo sebago</i>	as <i>Salmo salar sebago</i>
<i>Alosa sapidissima</i>	as Shad
<i>Esox reticulatus</i>	as Lucius
<i>Morone americana</i>	as White perch
<i>Catostomus commersonii</i>	as Suckers
<i>Coregonus labradoricus</i>	as Whitefish
<i>Clupea harengus</i>	as <i>Clupea harengus</i>
<i>Urophycis tenuis</i>	as <i>Phycis tenuis</i>
<i>Urophycis chuss</i>	as <i>Phycis chuss</i>
<i>Pollachius virens</i>	as <i>Pollachius virens</i>
<i>Melanogrammus æglefinus</i>	as <i>Melanogrammus æglefinus</i>
<i>Gadus callarias</i>	as <i>Gadus callarias</i>
<i>Osmerus mordax</i>	as <i>Osmerus mordax</i>

1897. WHITTEN, ORIN B.

Report of the Commissioner of Sea and Shore Fisheries of the State of Maine for the year 1896 (1897).

Cited as Me. S. and S. F. Report, 1897.

List of species:

<i>Clupea harengus</i>	as Herring
<i>Alosa sapidissima</i>	as Shad
<i>Brevoortia tyrannus</i>	as Menhaden
<i>Osmerus mordax</i>	as Smelt

<i>Salmo salar</i>	as Salmon
<i>Pomolobus</i>	as Alewife
<i>Xiphias gladius</i>	as Swordfish
<i>Anguilla rostrata</i>	as Eel
<i>Acipenser sturio</i>	as Sturgeon
<i>Roccus lineatus</i>	as Bass
<i>Microgadus tomcod</i>	as Tomcod

1898. CARLETON, LEROY T., STANLEY, HENRY O.,  
and OAK, CHARLES E.

Report of the Commissioners of Inland Fisheries and  
Game for the State of Maine for the year 1897 (1898).

Cited as Me. F. C. Report, 1898.

List of species:

<i>Salmo sebago</i>	as Landlocked salmon
<i>Salvelinus aureolus</i>	as Golden trout
<i>Oncorhynchus tshawytscha</i> *	as Quinnat salmon

1898. Kendall, W. C.

Collections of, in Sebago Lake and Neighboring Waters.

List of species:

*Ameiurus nebulosus*, *Catostomus commersonii*, *Erimyzon oblongus*, *Semotilus bullaris*, *Abramis crysoleucas*, *Notropis bifrenatus*, *Notropis cornutus*, *Anguilla rostrata*, *Salmo sebago*, *Salvelinus fontinalis*, *Osmerus mordax*, *Esox reticulatus*, *Lepomis gibbosus*, *Micropterus dolomieu*, *Perca flavescens*, *Morone americana*.

1898. JORDAN, DAVID STARR, and EVERMANN, BARTON WARREN.

The Fishes of North and Middle America.

Bulletin 47, U. S. National Museum, 1898, Part II, pp.  
1241-2183.

\*Introduced.



## List of species:

*Tautoga onitis*, *Sebastes marinus*, *Myoxocephalus scorpius*,  
*Eumicrotremus spinosus*, *Liparis liparis*.

1898A. JORDAN, DAVID STARR, and EVERMANN, BARTON WARREN.

The Fishes of North and Middle America.

Bulletin 47, U. S. National Museum, 1898, Part III, pp. 2184-3136.

## List of species:

*Anarchichas minor*, *Lycenchelys verrillii*, *Lophopsetta maculata*, *Liopsetta putnami*, *Gasterosteus bispinosus* as *Gasterosteus gladiunculus*.

1898. MERRILL, ELMER D.

Collection of, sent to U. S. National Museum. Designated here as Merrill Coll., 1898.

## List of species:

*Catostomus catostomus*, *Fundulus diaphanus*, *Couesius plumbeus*, *Osmerus mordax* (?), *Osmerus abbottii*, *Lepomis auriatus*, *Gasterosteus atkinsii*.

1898. NICKERSON, ALONZO R.

Report of the Commissioner of Sea and Shore Fisheries of the State of Maine, 1898 (1898).

Cited as Me. S. and S. F. Report, 1898.

## List of species:

<i>Clupea harengus</i>	as Herring
<i>Brevoortia tyrannus</i>	as Menhaden
<i>Osmerus mordax</i>	as Smelt
<i>Pomolobus pseudoharengus</i>	as Alewife
<i>Roccus lineatus</i>	as Bass
<i>Anguilla rostrata</i>	as Eel

## Pseudopleuronectes

americanus as Flounder

Scomber scombrus as Mackerel

Salmo salar as Salmon

Alosa sapidissima as Shad

Xiphias gladius as Swordfish

1898. SMITH, HUGH M.

The Salmon Fishery of Penobscot Bay and River in 1895 and 1896.

Bulletin U. S. Fish Commission, 1897 (1898), Vol. XVII, pp. 113-124. [*Salmo salar* as "salmon".]

1898. SMITH, HUGH M., and KENDALL, WILLIAM C.

Notes on the Extension of the Recorded Range of Certain Fishes of the United States Coast.

Report U. S. Fish Commission, 1896 (1898), pp. 169-176.

List of species:

Narcacion nobilianus as Tetronarce occidentalis

Lophopsetta maculata as Bothus maculatus

Spheroides maculatus as Spheroides maculatus

Apeltes quadracus as Apeltes quadracus

Centropristes striatus as Centropristes striatus

Stenotomus chrysops as Stenotomus chrysops

Prionotus carolinus as Prionotus carolinus

1899. CARLETON, LEROY T., STANLEY, HENRY O., and OAK, CHARLES E.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1898 (1899).

Cited as Me. F. C. Report, 1899.

List of species:

Salvelinus fontinalis as Trout

Oncorhynchus tshawytscha\* as Quinnsat salmon

\*Introduced.

<i>Salmo salar</i>	as Penobscot salmon
<i>Morone americana</i>	as White perch
<i>Micropterus dolomieu</i>	as Black bass

1899. Kendall, W. C.

List of species collected in Sebago Lake and neighboring waters, 1899. One species, *Couesius plumbeus*, was added to the list of 1898.

1899a. Kendall, W. C.

Collections of, made at Cobbosseecontee Lake and neighboring waters in 1899, referred to in the catalogue as Kendall Coll., 1899a.

List of species :

*Ameiurus nebulosus*, *Catostomus commersonii*, *Chrosomus erythrogaster*, *Abramis crysoleucas*, *Semotilus bullaris*, *Semotilus atromaculatus*, *Notropis cornutus*, *Rhinichthys atronasus*, *Salmo sebago*, *Salvelinus fontinalis*, *Fundulus diaphanus*, *Esox reticulatus*, *Eucalia inconstans*, *Gasterosteus atkinsii*, *Lepomis auritus*, *Lepomis gibbosus*, *Micropterus dolomieu*, *Perca flavescens*, *Morone americana*.

1899. Merrill, Elmer D.

Notes furnished to W. C. Kendall, 1899. Referred to here as Merrill Coll., 1899.

List of species :

*Fundulus diaphanus*, *Alosa sapidissima*, *Ameiurus nebulosus*, *Catostomus commersonii*, *Semotilus bullaris*, *Chrosomus erythrogaster*, *Abramis crysoleucas*, *Notropis cornutus*, *Osmerus mordax* (?), *Osmerus abbottii*, *Lepomis gibbosus*, *Lepomis auritus*, *Couesius plumbeus*, *Petromyzon marinus*, *Salmo sebago*, *Morone americana*, *Lota maculosa*, *Catostomus catostomus*, *Gasterosteus atkinsii*, *Rhinichthys atronasus*.

1900. *Bowdoin College.*

Collections of. In the collections in the Museum of Bowdoin are specimens from many parts of the State, collected by Prof. L. A. Lee, students and others. Dates of many of these collections are not given, but they run from the seventies up to date. During the fall of 1900, Prof. Lee kindly allowed the writer to examine the specimens, and they are referred to in this paper as Bowdoin College Coll., 1900, followed by the actual date of the collection when known. The following are the names of some of the collectors: Prof. Leslie A. Lee, Mr. James Johnson, Dr. G. W. Knowlton, Mr. S. M. Preble, Mr. J. C. Mead, Mr. F. N. Whittier, Mr. O. A. Gilbert, Mr. Z. W. Kemp, Mr. W. W. Kilgore, Mr. W. C. Kendall, and others whose names we were unable to ascertain.

## List of species :

*Petromyzon marinus*, *Isurus punctatus*, *Raia erinacea*, *Ameiurus nebulosus*, *Semotilus bullaris*, *Semotilus atromaculatus*, *Catostomus commersonii*, *Cottus gracilis*, *Rhinichthys atronasmus*, *Salvelinus oquassa*, *Gasterosteus aculeatus*, *Gasterosteus bispinosus*, *Cyclopterus lumpus*, *Urophycis tenuis*, *Prionotus carolinus*, *Salvelinus fontinalis*, *Coregonus quadrilateralis*, *Osmerus mordax*, *Fundulus heteroclitus*, *Fundulus diaphanus*, *Lepomis auritus*, *Sarda sarda*, *Neoliparis atlanticus*, *Pholis gunnellus*, *Scomberesox saurus*, *Selene vomer*, *Menticirrhus saxatilis*, *Pungitius pungitius*, *Pollachius virens*, *Morone americana*, *Perca flavescens*, *Lota maculosa*, *Naucrates ductor*, *Scomber colias*, *Siphostoma fuscum*, *Cryptacanthodes maculatus*.

1900. CARLETON, LEROY T., STANLEY, HENRY O., and OAK, CHARLES E.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1900 (1900).

Cited as Me. F. C. Report, 1900.

## List of species:

Salmo sebago	as Landlocked salmon
Salvelinus fontinalis	as Trout
Salmo fario*	as Brown trout

## 1900. Daniels, Linc.

A whitefish (*Coregonus labradoricus*) was caught by Linc. Daniels in Sebago Lake in August, 1900, on a troll.

## 1900. Kendall, W. C.

List of the fishes collected in Sebago Lake basin in 1900, containing the same species, excepting *Conesius plumbeus*, as Kendall, 1898 and 1899.

## 1900. Kendall, W. C., and Gould, Thos. B.

Collections made in Maine, 1900.

During the summer and fall of 1900, Dr. W. C. Kendall and Col. Thos. B. Gould were engaged upon lobster and clam experiments in Casco Bay and incidentally did some collecting of fishes. In October, they were instructed to make a study of the geographical distribution of Maine fresh-water fishes. Accordingly they visited Lake Auburn, Rangeley and Sebec Lakes and the East Branch of the Penobscot River waters, which regions their collections represent.

## List of species:

*Ameiurus nebulosus*, *Catostomus commersonii*, *Abramis crysoleucas*, *Semotilus bullaris*, *Semotilus atromaculatus*, *Leuciscus carletoni*, *Leuciscus neogæus*, *Notropis muskoka*, *Notropis cornutus*, *Rhinichthys atronasus*, *Anguilla rostrata*, *Onocorhynchus tshawytscha*,\*† *Salmo salar*, *Salmo sebago*,† *Salmo gairdneri*,\*† *Salmo irideus*,\*† *Salmo fario*,\*† *Salvelinus fontinalis*, *Salvelinus aureolus*, *Salvelinus oquassa*, *Fundulus diaphanus*, *Esox*

\*Introduced.

†Observed or obtained at State Hatchery Pond, Auburn.



*reticulatus*, *Gasterosteus atkinsii*, *Micropterus dolomieu*, *Perca flavescens*, *Tautoga onitis*, *Gadus callarias*, *Pollachius virens*, *Melanogrammus æglefinus*.

1900. *Pettengill, A. H.*

Collections of, in 1900 and previous years. Mr. Pettengill for a number of years has had a brush-weir at Wolf's Neck, Freeport, Maine, principally for the purpose of catching smelts. The law permits of the use of such fishing contrivances only from September 20th. Accordingly, Mr. Pettengill's collections represent the months of October, November and December. Occasionally fishes unknown to him are taken in the weir, which he has usually presented to the writer for identification.

List of species :

*Ammodytes americanus*, *Morone americana*, *Urophycis tenuis*, *Urophycis chuss*, *Osmerus mordax*, *Gasterosteus aculeatus*, *Brevoortia tyrannus*, *Gasterosteus bispinosus*, *Myoxocephalus aeneus*, *Chipea harengus*, *Pomatomus saltatrix*, *Mugil cephalus*, *Pungitius pungitius*, *Microgadus tomcod*, *Merluccius bilinearis*, *Myoxocephalus octodecimspinosus*, *Fundulus heteroclitus*, *Pseudopleuronectes americanus*, *Pollachius virens*, *Pomolobus pseudoharengus*, *Alosa sapidissima*, *Anguilla rostrata*, *Roccus lineatus*.

1900. SMITH, HUGH M.

The Sebago Lake Basin, in Report on the Inquiry Respecting Food-fishes and the Fishing-grounds.

Report U. S. Fish Commission, 1899 (1900), pp. cxxi-cxxiii.

List of species :

Salmo sebago	as <i>Salmo sebago</i>
Salmo sebago (?)	as "Jumper"

<i>Osmerus mordax</i> (?)	as Smelt
<i>Salvelinus fontinalis</i>	as <i>Salvelinus fontinalis</i>
<i>Esox reticulatus</i>	as <i>Lucius reticulatus</i>
<i>Catostomus commersonii</i>	as <i>catostomus commersonii</i>
<i>Anguilla rostrata</i>	as <i>Anguilla chrysypa</i>
<i>Lepomis gibbosus</i>	as <i>Eupomotus gibbosus</i>
<i>Micropterus dolomieu</i>	as <i>Micropterus dolomieu</i>
<i>Perca flavescens</i>	as <i>Perca flavescens</i>
<i>Morone americana</i>	as <i>Morone americana</i>
<i>Lota maculosa</i>	as <i>Lota maculosa</i>

1900. *Spinney, Herbert L.*

Assistant light keeper at Seguin Island, sent a specimen of *Neoliparis atlanticus* to the writer for identification. It was picked up in a cove on Seguin Island, April, 1900.

1901. *Kendall, W. C.*

Collection of Cathance River, tributary of the Kennebec at Bowdoinham, May, 1901.

List of species:

*Acipenser sturio*, *Pomolobus pseudoharengus*, *Alosa sapidissima*.

1901a. *Kendall, W. C.*

No additional species were collected in Sebago Lake and neighboring waters in 1901.

See Kendall, 1898, 1899 and 1900.

1901b. *Kendall, W. C.*

Collection of fishes made in Casco Bay, tributary brooks in Freeport and tributaries of Royals River in Durham during summer of 1901, mentioned in catalogue as Kendall Coll., 190 1b.

## List of species:

*Catostomus commersonii*, *Semotilus bullaris*, *Semotilus atromaculatus*, *Notropis cornutus*, *Couesius plumbeus*, *Anguilla rostrata*, *Clupea harengus*, *Salvelinus fontinalis*, *Osmerus mordax*, *Esox reticulatus*, *Fundulus heteroclitus*, *Pungitius pungitius*, *Apeltes quadracus*, *Morone americana*.

1901. Kendall, W. C., and Gould, Thos. B.

Collections made in northern Maine, summer and fall of 1901. Most of the month of August was passed at the Debsconeag Lakes and neighboring waters, September and October on the East Branch of Penobscot River, Allagash, St. Francis, St. John River, and Eagle Lakes of Aroostook County. The latter form the eastern branch of Fish River, a tributary of the St. John.

## List of species:

*Ameiurus nebulosus*, *Catostomus catostomus*, *Catostomus commersonii*, *Pimephales anuli*, *Chrosomus erythrogaster*, *Semotilus bullaris*, *Semotilus atromaculatus*, *Leuciscus carletoni*, *Leuciscus neogæus*, *Abramis crysoleucas*, *Notropis kendalli*, *Notropis cornutus*, *Couesius plumbeus*, *Rhinichthys atronasus*, *Anguilla rostrata*, *Coregonus quadrilateralis*, *Coregonus labradoricus*, *Coregonus stanleyi*, *Salmo salar*, *Salmo sebago*, *Salvelinus namaycush*, *Salvelinus fontinalis*, *Esox reticulatus*, *Fundulus diaphanus*, *Pungitius pungitius*, *Gasterosteus atkinsii*, *Lepomis auritus*, *Lepomis gibbosus*, *Perca flavescens*, *Morone americana*, *Cottus gracilis*, *Lota maculosa*.

1901. NICKERSON, ALONZO R.

Report of the Commissioner of Sea and Shore Fisheries of the State of Maine, 1900 (1901).

Cited as Me. S. and S. F. Report, 1901.

## List of species :

Clupea harengus	as Herring
Brevoortia tyrannus	as Menhaden
Osmerus mordax	as Smelt
Pomolobus pseudoharengus	as Alewife
Scomber scombrus	as Mackerel
Alosa sapidissima	as Shad
Roccus lineatus	as Bass
Tautoglabrus adspersus	as Cunner
Anguilla rostrata	as Eel
Pseudopleuronectes	
americana (?)	as Flounder
Xiphias gladius	as Swordfish

## 1901. Parker, Fred.

Caught a large tautog (*Tautoga onitis*) at mouth of Harra-seeket River, Casco Bay, and presented it to the writer.

## 1901. SMITH, HUGH M.

Cobbosseecontee and Sebago Lakes, Maine, in Report on the Inquiry Respecting Food-fishes and the Fishing-grounds.

Report U. S. Fish Commission, 1900 (1901), pp. 128, 129.

## List of species :

Micropterus dolomieu	as Micropterus dolomieu
Morone americana	as Morone americana
Salvelinus fontinalis	as Salvelinus fontinalis
Salmo sebago	as Salmo sebago
Eucalia inconstans	as Eucalia inconstans
Ameiurus nebulosus	as Ameiurus nebulosus
Catostomus commersonii	as Catostomus commersonii
Semotilus bullaris	as Semotilus corporalis
Semotilus atromaculatus	as Semotilus atromaculatus
Abramis crysoleucas	as Abramis crysoleucas
Anguilla rostrata	as Anguilla chrysypa

Osmerus abbottii	as Osmerus abbotti
Esox reticulatus	as Lucius reticulatus
Lepomis auritus	as Lepomis auritus
Lepomis gibbosus	as Eupomotis gibbosus
Perca flavescens	as Perca flavescens

## 1902. Kendall, W. C.

The following list of fishes represents a collection made during the spring and early summer, Sebago Lake, Little Sebago, Freeport, Casco Bay and Lower Penobscot River waters, referred to as Kendall Coll., 1902.

## List of species :

*Petromyzon marinus*, *Acipenser sturio*, *Ameiurus nebulosus*, *Catostomus commersonii*, *Semotilus atromaculatus*, *Semotilus bullaris*, *Notropis cornutus*, *Couesius plumbeus*, *Rhinichthys atronasus*, *Anguilla rostrata*, *Pomolobus pseudoharengus*, *Pomolobus aestivalis*, *Salmo salar*, *Salmo sebago*, *Salvelinus fontinalis*, *Osmerus mordax*, *Esox reticulatus*, *Fundulus heteroclitus*, *Micropterus dolomieu*, *Perca flavescens*, *Morone americana*, *Tautoglabrus adspersus*, *Pungitius pungitius*, *Gasterosteus aculeatus*, *Apeltes quadracus*, *Myoxocephalus octodecimspinosus*, *Pollachius virens*, *Microgadus tomcod*, *Urophycis chuss* (?), *Merluccius bilinearis*, *Microgadus tomcod*, *Pseudopleuronectes americanus*.

## 1902A. KENDALL, W. C.

Notes on the Silversides of the genus *Menidia*, of the east coast of the United States, with descriptions of two new sub-species.

Report U. S. Fish Commission, 1901 (1902), pp. 241-267.  
[*Menidia menidia notata*.]

## 1902. Kendall, W. C., and Gould, Thos. B.

Collectors of, in Moosehead Lake and East Branch of Penobscot River waters during summer and fall of 1902.



## List of species:

*Catostomus commersonii*, *Pimephales anuli*, *Semotilus bul-laris*, *Semotilus atromaculatus*, *Abramis crysoleucas*, *Notropis cornutus*, *Leuciscus nœgæus*, *Conesius plumbeus*, *Rhinichthys atronasus*, *Anguilla rostrata*, *Salmo salar*, *Salmo sebago*, *Salvelinus namaycush*, *Salvelinus fontinalis*, *Esox reticulatus*, *Gasterosteus atkinsii*, *Lepomis auritus*, *Lepomis gibbosus*, *Micropterus dolomieu*, *Perca flavescens*.

## 1902. SMITH, HUGH M.

River and Lake Fishes of Maine, in Report on the Inquiry Respecting Food-fishes and the Fishing-grounds.

Report U. S. Fish Commission, 1901 (1902), pp. 111-112.

## List of species:

<i>Salmo salar</i>	as <i>Salmon-like fish</i>
<i>Salmo sebago</i>	as <i>Salmo sebago</i>
<i>Osmerus mordax</i> (?)	as <i>Fresh-water smelt</i>
<i>Salvelinus oquassa</i>	as <i>Salvelinus oquassa</i>
<i>Leuciscus carletoni</i>	as <i>Leuciscus sp. (?)</i>
<i>Leuciscus nœgæus</i>	as <i>Leuciscus sp. (?)</i>
<i>Notropis kendalli</i>	as <i>Notropis muskoka</i>
<i>Fundulus diaphanus</i>	as <i>Fundulus diaphanus</i>
<i>Gasterosteus atkinsii</i>	as <i>Gasterosteus atkinsii</i>
<i>Semotilus atromaculatus</i>	as <i>Semotilus atromaculatus</i>
<i>Pomatomus saltatrix</i>	as <i>Pomatomus (young)</i>
<i>Brevoortia tyrannus</i>	as <i>Brevoortia (young)</i>
<i>Morone americana</i>	as <i>Morone</i>
<i>Mugil cephalus</i>	as <i>Mugil cephalus</i>

## 1903. Atkins, Charles G.

Collector and observer. List submitted to Bureau of Fisheries, February 5, 1903.

## List of species:

<i>Petromyzon marinus</i> (?)	as <i>Lampetra wilderi</i>
<i>Ameiurus nebulosus</i>	as <i>Ameiurus nebulosus</i>

Catostomus catostomus	as Catostomus catostomus
Catostomus commersonii	as Catostomus commersonii
Erimyzon oblongus	as Erimyzon sucetta
Semotilus bullaris	as Semotilus corporalis
Semotilus atromaculatus	as Semotilus atromaculatus
Abramis crysoleucas	as Abramis crysoleucas
Notropis cornutus	as Notropis cornutus
Rhinichthys atronasmus	as Rhinichthys atronasmus
Anguilla rostrata	as Anguilla chrysypa
Coregonus quadrilateralis	as Coregonus quadrilateralis
Coregonus labradoricus	as Coregonus labradoricus
Osmerus mordax	as Osmerus mordax
Osmerus spectrum	as Osmerus mordax spectrum
Osmerus abbottii	as Osmerus mordax abbottii
Salmo sebago	as Salmo salar sebago
Salvelinus namaycush	as Cristivomer namaycush
Salvelinus fontinalis	as Salvelinus fontinalis
Salvelinus oquassa	as Salvelinus oquassa
Salvelinus aureolus	as Salvelinus alpinus aureolus
Esox reticulatus	as Lucius reticulatus
Fundulus diaphanus	as Fundulus diaphanus
Gasterosteus atkinsii	as Gasterosteus bispinosus atkinsii
Gasterosteus atkinsii	as Gasterosteus bispinosus cuvieri (?)
Lepomis auritus	as Lepomis auritus
Lepomis gibbosus	as Eupomotis gibbosus
Micropterus dolomieu	as Micropterus salmoides (?)
Perca flavescens	as Perca flavescens
Morone americana	as Morone americana
Cottus gracilis	as Uranidea quiescens
Lota maculosa	as Lota maculosa

1903. *Berry, W. E.*

A fine collection of *Osmerus abbottii* was made by Mr. Berry and sent to the Bureau of Fisheries by request of State Commissioner, Hon. H. O. Stanley.

## 1903. BOARDMAN, SAMUEL LANE.

The Naturalist of the St. Croix. Memoir of George A. Boardman. A selection from his Correspondence and Published Writings. Notices of Friends and Contemporaries, with his Lists of the Birds of Maine and New Brunswick.

Bangor, privately printed.

Contains a few scattered notes on the occurrence of a number of fishes in his letters to S. F. Baird, and at pages 316-319, a nominal list of ninety-three alleged species of Maine and New Brunswick fishes. The list is very erroneous and valueless.

## 1903. CARLETON, L. T., STANLEY, HENRY O., and RING, EDGAR E.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1902 (1903).

Cited as Me. F. C. Report, 1903.

List of species:

Coregonus sp.	as Whitefish
Salmo sebago	as Landlocked salmon
Salvelinus fontinalis	as Trout

1903. *Garland, C. C.*

In Rainbow Lake and Rainbow Stream, in May, 1903, twenty-five or thirty saibling were said by Mr. Garland to have been caught in the pool below the dam at foot of the lake. He secured one from the anglers; another specimen was caught in the upper end of Rainbow Lake. [*Salvelinus oquassa* (?) and *Rhinichthys atronasus*.]

1903. HAMLIN, AUGUSTUS C., M. D.

*Salmo toma* or *togue* [*Salvelinus namaycush*].

Maine Sportsman, May, 1903.

See Hamlin, 1853 (?).

1903. Kendall, W. C.

Collector of, in Sebago, Royals, Androscoggin, Penobscot, Union and St. John river basins, and in Casco Bay, Me., season of 1903.

List of species :

*Ameiurus nebulosus*, *Catostomus commersonii*, *Catostomus catostomus*, *Chrosomus erythrogaster*, *Pimephales anuli*, *Semotilus bullaris*, *Semotilus atromaculatus*, *Leuciscus carletoni*, *Phoxinus neogeus*, *Abramis crysoleucas*, *Notropis cornutus*, *Notropis kendalli*, *Conesius plumbeus*, *Rhinichthys atronasus*, *Anguilla rostrata*, *Clupea harengus*, *Pomolobus pseudoharengus*, *Esox reticulatus*, *Coregonus labradoricus*, *Coregonus stanleyi*, *Coregonus quadrilateralis*, *Salmo salar*, *Salmo sebago*, *Salvelinus namaycush*, *Salvelinus fontinalis*, *Salvelinus oquassa*, *Salvelinus aureolus*, *Fundulus diaphanus*, *Fundulus heteroclitus*, *Pungitius pungitius*, *Gasterosteus aculeatus*, *Gasterosteus bispinosus*, *Apeltes quadracus*, *Osmerus mordax*, *Lepomis auritus*, *Lepomis gibbosus*, *Micropterus dolomieu*, *Perca flavescens*, *Morone americana*, *Zoarces anguillaris*, *Merluccius bilinearis*, *Urophycis tenuis*, *Pollachius virens*, *Gadus callarias*, *Melanogrammus aeglefinus*, *Lota maculosa*, *Tautoglabrus adspersus*, *Pseudopleuronectes americanus*, *Hemitripterus americanus*, *Myoxocephalus octodecimspinosus*.

1903A. KENDALL, W. C.

Notes on some fresh-water fishes from Maine.

Bulletin U. S. Fish Commission, Vol. XXII, 1902 (1904), pp. 355-368.

## List of species :

*Chrosomus erythrogaster*, *Semotilus atromaculatus*, *Notropis kendalli* as *Notropis muskoka*, *Conesius plumbeus*, *Fundulus diaphanus*, *Eucalia inconstans*, *Narcacion nobilianus* as *Narcine occidentalis*, *Gasterosteus bispinosus* as *Gasterosteus wheatlandi*, *Mugil cephalus* as *Mugil curema*, *Stenotomus chrysops*, *Centropristes striatus*, *Menticirrhus saxatilis*, *Prionotus carolinus*, *Spheroides maculatus*, *Lophopsetta maculata*, *Macrourus bairdi*, *Catostomus catostomus*, *Catostomus commersonii*, *Phoxinus neogæus*, *Leuciscus carletoni* (type), *Pimephales anuli* (type), *Notropis bifrenatus*, *Cottus gracilis*, *Coregonus labradoricus*, *Coregonus quadrilateralis*, *Coregonus stanleyi* (type), *Coregonus labradoricus*.

## 1903. Lee, Leslie A.

A small collection made in a ditch connected with the Penobscot River at Bangor, October 1, and one species at Dixmont, October 10, 1903, are recorded here as Lee Coll., 1903.

## List of species :

*Chrosomus erythrogaster*, *Leuciscus carletoni*, *Rhinichthys atronasus*, *Pungitius pungitius*.

## 1903. NICKERSON, ALONZO R.

Report of the Commissioner of Sea and Shore Fisheries of the State of Maine, 1902 (1903).

Cited as Me. S. and S. F. Report, 1903.

## List of species :

<i>Clupea harengus</i>	as Herring
<i>Brevoortia tyrannus</i>	as Menhaden
<i>Osmerus mordax</i>	as Smelt
<i>Pomolobus pseudoharengus</i>	as Alewife
<i>Scomber scombrus</i>	as Mackerel



<i>Alosa sapidissima</i>	as Shad
<i>Salmo salar</i>	as Salmon
<i>Roccus lineatus</i>	as Bass

## 1903. Norton, A. H.

Observed a few fishes, and secured specimens of one or two more, brought ashore by Arctic terns as food for their young, at Matinicus Rock. The species cited in this paper are *Anguilla rostrata* and *Ulvaria subbifurcata*.

## 1903. SMITH, HUGH M.

Report on the Inquiry Respecting Food-fishes and the Fishing-grounds.

Report U. S. Fish Commission, 1902 (1903), pp. 132-134.

List of species :

<i>Salvelinus fontinalis</i>	as Brook trout
<i>Salvelinus namaycush</i>	as Cristivomer namaycush
<i>Semotilus bullaris</i>	as Semotilus corporalis
<i>Semotilus atromaculatus</i>	as Semotilus atromaculatus
<i>Salmo salar</i>	as Small salmon
<i>Coregonus stanleyi</i>	as Coregonus
<i>Coregonus quadrilateralis</i>	as Coregonus quadrilateralis
<i>Coregonus labradoricus</i>	as Coregonus labradoricus
<i>Gasterosteus atkinsii</i>	as Gasterosteus atkinsii
<i>Couesius plumbeus</i>	as Couesius plumbeus

## 1903. Stanley, H. O.

The Bureau of Fisheries at Washington received six white-fish from M. Alva Cooledge, Upton, Me., whom Mr. Stanley got to secure the fish. Upon examination they seemed to be *Coregonus clupeaformis*.\*

\*Introduced.

1903. *Townsend, Will.*

Caught a fair-sized tautog (*Tautoga onitis*) in tidal portion of fresh water brook, Porter's Landing, while dipping smelts in the spring.

1904. *Bowman, A. C.*

In a letter to Mr. T. E. B. Pope, of the U. S. Bureau of Fisheries, dated Feb. 1, 1904, Mr. Bowman, of Hartland, enumerates the fishes of Moose Pond, Indian Pond and Sebastcook River.

List of species :

Ameiurus nebulosus	as Hornpout
Catostomus commersonii	as Suckers
Semotilus bullaris	as Chub
(?)	as Shiners
Anguilla rostrata	as Common eel
Anguilla rostrata	as Silver eel
Salmo sebago	as Landlocked salmon
Salvelinus fontinalis	as Square-tail trout
Osmerus abbottii	as Fresh-water smelt
Esox reticulatus	as Pickerel
Lepomis auritus or	
Lepomis gibbosus or both	as Sunfish
Micropterus dolomieu	as Black bass
Perca flavescens	as Yellow perch
Morone americana	as White perch
Lota maculosa	as Cusk

1904. EVERMANN, BARTON W.

The Salmon Fisheries of Penobscot River and Bay in Report of the Division of Statistics and Methods of the Fisheries.

Report U. S. Fish Commission for year ending June 30, 1903 (1904), pp. 110-114.

## List of species:

*Petromyzon marinus*, *Squalus acanthias*, *Acipenser sturio*, *Anguilla rostrata*, *Clupea harengus*, *Pomolobus pseudoharengus*, *Pomolobusestivalis*, *Alosa sapidissima*, *Brevoortia tyrannus*, Salmon [*Salmo salar*], *Osmerus mordax*, *Fundulus heteroclitus*, *Scomber scombrus*, *Roccus lineatus*, *Tautoglabrus adspersus*, *Tautoga onitis*, *Myoxocephalus grælandicus*, *Cyclopterus lumpus*, *Merluccius bilinearis*, *Pollachius virens*, *Gadus callarias*, *Microgadus tomcod*, *Pseudopleuronectes americanus*, *Lipsetta putnami*.

## 1904. KENDALL, DR. W. C.

Identifying the Catch [with additional title at page 43], Game and Food Fishes [and at page 61], Bait Fishes.

In the Maine Woods, edition of 1904. The Vacationists' Guide Book, Published by the Bangor and Aroostook Railroad Company, Bangor, Me., pp. 34-66.

## Food fishes:

*Salmo salar*, *Salmo sebago*, *Salmo gairdneri*,\* *Salmo irideus*,\* *Salmo fario*,\* *Salvelinus namaycush* as *Cristivomer namaycush*, *Salvelinus fontinalis*, *Coregonus labradoricus*, *Coregonus quadrilateralis*, *Coregonus stanleyi*, *Micropterus dolomieu*, *Morone americana*, *Esox reticulatus*, *Perca flavescens*, *Lepomis auritus*, *Lepomis gibbosus* as *Eupomotis gibbosus*, *Lota maculosa*, *Ameiurus nebulosus*, *Anguilla rostrata* as *Anguilla chrisypa*.

## Bait fishes:

*Osmerus mordax*, *Semotilus bullaris* as *Semotilus corporalis*, *Semotilus atromaculatus*, *Leuciscus carletoni*, *Phoxinus neogæus*, *Abramis crysoleucas*, *Notropis cornutus*, *Couesius plumbeus*, *Rhinichthys atronasus*, *Fundulus diaphanus*.

## 1904. Garland, C. C.

In the fall of 1904 Mr. Garland collected two specimens

\* Introduced.

of the saibling of Rainbow Lake, which cannot be definitely distinguished from the small blueback that formerly occurred in Rangeley Lakes, with which species it is here provisionally identified (*Salvelinus oquassa*).

1904. Kendall, W. C.

Collections and observations made in Casco Bay, at Eagle and Whaleboat Islands; Freeport in Porter's Landing, Harvey Brook and South Fork of East Branch of Royals River; Durham and Pownal in "The Branch"; Floods Pond; Rangeley, Kennebago and Cupsuptic Streams and Oquossoc and Mooselucmaguntic Lakes; Carry and Pierce Ponds, are referred to as Kendall Coll., 1904.

List of species:

*Ameiurus nebulosus*, *Catostomus commersonii*, *Semotilus bul-laris*, *Semotilus atromaculatus*, *Notropis cornutus*, *Rhinichthys atronasus*, *Coxesius plumbeus*, *Pomolobus pseudoharengus*, *Salmo sebago*, *Salvelinus namaycush*, *Salvelinus fontinalis*, *Salvelinus oquassa*, *Salvelinus aureolus*, *Osmerus mordax*, *Anguilla rostrata*, *Esox reticulatus*, *Fundulus diaphannus*, *Fundulus heteroclitus*, *Gasterosteus aculeatus*, *Gasterosteus atkinsii*, *Lepomis auritus*, *Zoarces anguillaris*, *Pollachius virens*, *Gadus cal-larias*, *Melanogrammus aeglefinus*.

1904. SMITH, HUGH M.

Atlantic Salmon, *Salmon of Penobscot Basin*, in Report on Inquiry Respecting Food-fishes and the Fishing-grounds.

Report U. S. Fish Commission for the year ending June 30, 1903 (1904), pp. 81, 82. [Salmon.]

1905. CARLETON, L. T., STANLEY, HENRY A., RING, EDGAR E.

Report of the Commissioners of Inland Fisheries and Game of the State of Maine for the year 1904 (1905).

Cited as Me. F. C. Report, 1905.

## List of species:

<i>Salmo sebago</i>	as Salmon
<i>Salvelinus fontinalis</i>	as Trout
<i>Salmo gairdneri</i> *	as Steelhead trout
<i>Salmo fario</i> *	as Brown trout
<i>Salvelinus namaycush</i>	as Togue
<i>Salmo irideus</i> *	as Rainbow trout
<i>Oncorhynchus tshawytscha</i>	as Quinnat salmon

## 1905. EVERMANN, BARTON W.

Investigations in Maine, in Report on Inquiry Respecting Food-fishes and the fishing-grounds.

Report of Commissioner of Fisheries to the Secretary of Commerce and Labor for the year ending June 30, 1904, pp. 102-106.

## List of species:

*Salmo sebago*, *Salvelinus namaycush*, *Salvelinus fontinalis*, *Coregonus quadrilateralis*, *Coregonus labradoricus*, *Coregonus stanleyi*, yellow perch [*Perca flavescens*], *Osmerus mordax*, *Catostomus commersonii*, *Lota maculosa*, *Salvelinus aureolus*, a peculiar trout [*Salvelinus oquassa*], *Rhinichthys atronasus*, *Pomolobus pseudoharengus*, *Pungitius pungitius*, *Gasterosteus aculeatus*, *Gasterosteus bispinosus*, *Apeltes quadracus*, *Fundulus heteroclitus*, young eels [*anguilla rostrata*].

## 1905. Kendall, W. C.

Collections made in Umbagog Lake and vicinity. Referred to as Kendall Coll., 1905.

## List of species:

*Ameiurus nebulosus*, *Catostomus catostomus*, *Catostomus commersonii*, *Semotilus bullaris*, *Semotilus atromaculatus*, *Phoxinus neogaeus*, *Abramis crysoleucas*, *Notropis cornutus*,

\*Introduced.



*Couesius plumbeus*, *Rhinichthys atronasus*, *Coregonus clupeaformis*\*, *Salmo sebago*\*, *Salvelinus fontinalis*, *Osmerus mordax*\*, *Esox reticulatus*.

1905. NICKERSON, ALONZO K.

Twenty-eighth Report of the Commissioner of Sea and Shore Fisheries of the State of Maine for 1903 and 1904 (1905).

Cited as Me. S. and S. F. Report, 1905.

List of species:

<i>Clupea harengus</i>	as Herring
<i>Osmerus mordax</i>	as Smelt
<i>Pomolobus pseudoharengus</i>	as Alewife
<i>Scomber scombrus</i>	as Mackerel
<i>Alosa sapidissima</i>	as Shad
<i>Salmo salar</i>	as Salmon
<i>Brevoortia tyrannus</i>	as Menhaden
<i>Roccus lineatus</i>	as Bass
<i>Tautoglabrus adspersus</i>	as Cunner
<i>Anguilla rostrata</i>	as Eel
<i>Pseudopleuronectes</i>	
<i>americanus</i>	as Flounder
<i>Xiphias gladius</i>	as Swordfish
<i>Microgadus tomcod</i>	as Tomcod

1905 and 1906. Norton, A. H.

During each of the winters of the years cited a specimen of *Isurus punctatus* was brought into Portland from the fishing grounds off Cape Elizabeth. Both were adult females, each carrying, after the well known manner of *Squalus acanthias*, a pair of young.

The sharks were identified by Mr. Norton, and are cited as Norton coll., 1905 and 1906.

\*Introduced.

1905. WILLARD, CAPT. BENJAMIN J.

Captain Ben's Book. A Record of the things which Happened to Captain Benjamin J. Willard, Pilot and Stevedore, During some Sixty Years on Sea and Land, As Related by Himself.

Portland, Me., Lakeside Press, 1905.

Contains numerous notes and two illustrations on fishing for sport and for profit, at points between Boon Island and Mt. Desert, with remarks and descriptions of methods.

The fishes mentioned are "Blue Shark" [*Isurus punctatus*], "Dusky or Man-eater Shark" [*Carcharinus obscurus*], "Trout" [*Salvelinus fontinalis*], "Swordfish" [*Xiphias gladius*], "Sunfish" [*Mola mola*], and "Codfish" [*Gadus callarias*].

The capture of the dusky shark (taken outside of Cod Ledge during the summer of 1864) is fully given at pages 97-99. Willard states that it was identified by Mr. Charles [B.] Fuller, cabinet keeper of the Portland Society of Natural History, and that the shark was given to that Society to be mounted, where it was destroyed "at the time of the big fire," which occurred July 4, 1866.

1906-1912. Kendall, W. C.

Collection made in the Presumpscot River or Sebago Lake basin.

Additional species to preceding lists were *Couesius plumbeus* again, *Pungitius pungitius*, *Cottus gracilis*.

1906. Norton, A. H.

Collected on Old Orchard beach a specimen in the post-larval stage of *Leptocephalus conger*.

1907. Bowdoin College.

*Echeneis naucrates*. A specimen taken in a herring weir at Slen's Island, Seal Harbor, St. George (Knox Co., Me.),

July 29, 1907, was sent to Bowdoin College by Prof. Charles Wilbert Snow. Cited as Bowdoin College Coll., 1907.

1907. CARLETON, L. T., BRACKETT, J. W., and RING, EDGAR E.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1906 (1907).

Cited as Me. F. C. Report, 1907.

List of species :

<i>Salvelinus fontinalis</i>	as Trout
<i>Salmo fario</i> *	as Brown Trout
<i>Salmo sebago</i>	as Salmon
<i>Stizostedion vitreum</i> *	as Pike Perch
<i>Oncorhynchus tshawytscha</i> *	as Quinнат salmon

1907. NICKERSON, ALONZO R.

Twenty-ninth Report of the Commissioner of Sea and Shore Fisheries of the State of Maine for 1905 and 1906 (1907).

Cited as Me. S. and S. F. Report, 1907.

List of species :

<i>Squalus acanthias</i>	as Dogfish
<i>Clupea harengus</i>	as Herring
<i>Scomber scombrus</i>	as Mackerel
<i>Alosa sapidissima</i>	as Shad
<i>Osmerus mordax</i>	as Smelt
<i>Pomolobus pseudoharengus</i>	as Alewife
<i>Salmo salar</i>	as Salmon
<i>Roccus lineatus</i>	as Bass
<i>Tautoglabrus adspersus</i>	as Cunner
<i>Anguilla rostrata</i>	as Eel
<i>Pseudopleuronectes</i>	
<i>americanus</i>	as Flounder

\*Introduced.

<i>Xiphias gladius</i>	as Swordfish
<i>Microgadus tomcod</i>	as Tomcod

1908. CARLETON, L. T., BRACKETT, J. W., and RING, EDGAR E.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1907 (1908).

Cited as Me. F. C. Report, 1908.

<i>Salmo sebago</i>	as Landlocked salmon
<i>Salmo fario</i> *	as Brown trout
<i>Salvelinus fontinalis</i>	as Trout

1908. KENDALL, WILLIAM C.

Fauna of New England. 8. List of Pisces.

Occasional Papers of the Boston Society of Natural History, Vol. VII, 1908.

Said list contains all the Maine species included in this catalogue, with the following exceptions, namely:

*Carcharinus obscurus*, *Etrumeus teres*, *Hyporhamphus roberti*, *Echeneis naucrates*, *Leptoclinus maculatus*, *Lyxenchelys verrillii*, *Hippoglossoides platessoides* and *Artediellus atlanticus*.

The nomenclature has been changed in the following species, that used in this catalogue being given first.

List of species:

<i>Vulpecula marina</i>	as <i>Alopias vulpes</i>
<i>Carcharius taurus</i>	as <i>Carcharius littoralis</i>
<i>Isurus tigris</i>	as <i>Isurus dekayi</i>
<i>Isurus punctatus</i>	as <i>Lamna cornubica</i>
<i>Raja erinacea</i>	as <i>Raja erinacea</i>
<i>Raja diaphanes</i>	as <i>Raja ocellata</i>
<i>Raja radiata</i>	as <i>Raja radiata</i>
<i>Raja stabuliformis</i>	as <i>Raja levis</i>

\*Introduced.

Narcacion nobilianus	as Tetronarce occidentalis
Notropis kendalli	as Notropis muskoka
Anguilla rostrata	as Anguilla chrisypa
Salvelinus namaycush	as Cristivomer namaycush
Siphostoma fuscum	as Syngnathus fuscus
Scomber colias	as Scomber japonicus
Lampris luna	as Lampris regius
Lepomis gibbosus	as Eupomotis gibbosus
Lycenchelys verrillii	as Lycodes verrillii

1908. Norton, Ralph H.

November 6, 1908, Mr. Norton presented to the collection of the Portland Society of Natural History a specimen of *Mugil cephalus*, taken two or three days previously at Clapboard Island, Casco Bay. It has been examined by the author of this work.

1908. Portland Society of Natural Society.

An unmounted skin, with jaws of *Isurus tigris*, taken in nets off Seguin September 14, 1908, is cited as P. S. N. H. Coll., 1908.

1909. CARLETON, L. T., BRACKETT, J. W., and RING, EDGAR E.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1908 (1909).

Cited as Me. F. C. Report, 1909.

List of species:

Salmo sebago	as Salmon
Salvelinus fontinalis	as Trout
Salvelinus namaycush	as Togue



1909. DONAHUE, JAMES.

Thirtieth Report of the Commissioner of Sea and Shore Fisheries, State of Maine, 1907 and 1908 (1909).

Cited as Me. S. and S. F. Report, 1909.

List of species:

Pomolobus pseudoharengus	as Alewife
Roccus lineatus	as Bass
Anguilla rostrata	as Eel
Clupea harengus	as Herring
Scomber scombrus	as Mackerel
Brevoortia tyrannus	as Menhaden
Salmo salar	as Salmon

1909. EVERMANN, BARTON WARREN, and COCKEREL, THEODORE D. A.

Proceedings Biological Society of Washington, Vol. XXII, pp. 185-188.

Description of *Notropis kendalli*. This species is based upon specimens of fish identified by Kendall as *Notropis muskoka*.

1911. BRACKETT, J. W., VILES, BLAINE S., and RING, EDGAR E.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1910 (1911).

Cited as Me. F. C. Report, 1911.

List of species:

Salmo sebago	as Landlocked salmon
Salvelinus fontinalis	as Trout
Salvelinus namaycush	as Togue
Salvelinus fontinalis	as Square-tailed trout
Salmo fario*	as Brown trout

\*Introduced.

## 1911. DONAHUE, JAMES.

Thirty-first Report of the Commissioner of Sea and Shore Fisheries, State of Maine, 1909 and 1910 (1911).

Cited as Me. S. and S. F. Report, 1911.

List of species:

Pomolobus pseudoharengus	as Alewife
Roccus lineatus	as Bass
Anguilla rostrata	as Eel
Clupea harengus	as Herring
Scomber scombrus	as Mackerel
Alosa sapidissima	as Shad
Osmerus mordax	as Smelt

## 1911 and 1912. Rackliff, Evan D.

During the summer of each of these years Mr. Rackliff caught a large sunfish (*Mola mola*) near Cod Ledge, off Casco Bay.

## 1911. Rackliff, Fred.

Collected two specimens of *Prionotus carolinus* in a herring wier on the west side of Mt. Desert Island in the summer of 1911, one of which he mounted and presented to the collection of the Portland Society of Natural History.

## 1912. Powers, W. L.

Rough drawing and a description of a halfbeak, ten and one-half inches long, probably *Hyporhamphus roberti*, caught in a weir two miles from open ocean, May, 1912, Machias.

## 1912 and 1913. Welsh, W. W.

Collected *Argentina silus* off the Maine coast as follows:

One young example, 49 mm. long, Grampus Station No. 10027, August 14, 1912, in closing net at 35 fathoms, thirty-three miles south from Mt. Desert Rock, Me.

One young example, 38 mm. long, Grampus Station No. 10097, Aug. 13, 1913, twenty-five miles southeast from Petit Manan light.

1913. *Copeland, Dr. Manton.*

Sent the writer for examination a specimen of *Hyporhamphus roberti* from the collection of Bowdoin College, which had been collected at "Bunganuc" (Brunswick), Maquoit Bay, October, 1912.

1913. DONAHUE, JAMES.

Thirty-second Report of Commissioner of Sea and Shore Fisheries, State of Maine, 1911 and 1912 (1913).

Cited as Me. S. and S. F. Report, 1913.

List of species:

Pomolobus pseudoharengus	as Alewife
Roccus lineatus	as Bass
Anguilla rostrata	as Eel
Clupea harengus	as Herring
Scomber scombrus	as Mackerel
Brevoortia tyrannus	as Menhaden
Salmo salar	as Salmon

1913. KENDALL, WILLIAM CONVERSE.

Fishes and Fishing in Sunapee Lake.

[U. S.] Department of Commerce, Bureau of Fisheries, Document No. 783.

List of species:

*Coregonus clupeaformis*, *Oncorhynchus tshawytscha*, *Salmo sebago*, *Salvelinus oquassa*, *Salvelinus aureolus*, *Osmerus mordax*.

1913. *Kendall, Dr. W. C.*

Observations made on the Maine coast between Eastport and Portland, July, August and September, cited as Kendall coll., 1913.

1913. WILSON, J. S. P. H., VILES, BLAINE S., and MACE, F. E.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1912 (1913).

Cited as Me. F. C. Report, 1913.

List of species:

<i>Salmo sebago</i>	as Landlocked salmon
<i>Salvelinus fontinalis</i>	as Square-tailed trout
<i>Salvelinus namaycush</i>	as Togue
<i>Salmo fario</i> *	as Brown trout

1914. BIGELOW, HENRY B.

Explorations in the Gulf of Maine, July and August, 1912, by the U. S. Fisheries Schooner Grampus. Oceanography and Notes on the Plankton.

Bulletin Museum of Comparative Zoology at Harvard College, Vol. LVIII, No. 2, pp. 31-147, pls. 1-9.

At page 107 occurs a list of fishes (identified by W. W. Welsh, U. S. Bureau of Fisheries). In this list numerous Maine specimens are recorded. The list is divided in two sections: 1. Larval and post-larval stages taken in the plankton hauls (pp. 107-111), and [2.] adult stages taken in the trawl (pp. 111-114).

One species, *Artediellus atlanticus*, is additional to the catalogue of Maine fishes (see addenda, page 73), and several others are rare.

This paper appeared too late to allow the records to appear in their proper places in the catalogue, and therefore the Maine specimens and stations are given in full here.

*Raia erinacea*—Southward of Seguin in 60 fathoms.

*Osmerus mordax*—Portland Harbor.

*Gasterosteus aculeatus*—Southeastward of Boon Island.

\*Introduced.

*Siphostoma fuscum*—Portland Harbor.

*Tautogolabrus adspersus*—Kittery Harbor; Orr's Island; Casco Bay.

*Cyclopterus lumpus*—Southeastward of Monhegan; between Petit Manan and Libby Island.

*Lycenchelys verrillii*—Off Monhegan in 60 fathoms.

*Zoarces anguillaris*—Off Halfway Rock in 30 fathoms.

*Ulvaria subbifurcata*—Off Seguin in 25 fathoms; southeastwardly of Cape Porpoise in 20 fathoms; Casco Bay in 7 fathoms.

*Myoxocephalus octodecimspinosus*—Southeastward of Cape Elizabeth in 50 fathoms; near Halfway Rock in 16 fathoms.

*Artediellus atlanticus*—Off Casco Bay in 40 fathoms; southward of Monhegan in 60 fathoms.

*Hemitripteris americanus*—Off Halfway Rock in 30 fathoms; southward of Monhegan in 60 fathoms.

*Sebastes marinus*—Southward of Cape Porpoise in 30 fathoms; southeastward in 20 fathoms; off Seguin in 25 fathoms; southeastward of Cape Elizabeth in 50 fathoms, and in 20 fathoms; southward in 30 fathoms, and northward of Monhegan in 60 fathoms.

*Aspidophoroides monopterygius*—Off Halfway Rock in 30 fathoms; southward of Monhegan in 60 fathoms.

*Merluccius bilinearis*—Off Halfway Rock in 30 fathoms; off Seguin in 25 fathoms; southward of Monhegan in 60 fathoms; Kittery Harbor and Orr's Island.

*Melanogrammus aeglefinus*—Off Halfway Rock in 30 fathoms; off Seguin in 25 fathoms.

*Gadus callarias*—Southeastward of Boon Island in 25 fathoms.

*Urophycis regius*—Near Halfway Rock in 11 fathoms.



*Urophycis chuss*—Southward of Cape Porpoise in 30 fathoms; off Halfway Rock in 30 fathoms; off Seguin in 25 fathoms; southward of Monhegan in 60 fathoms.

*Enchelyopus cimbrius*—Southeastward of Boon Island in 30 fathoms, and in 5 fathoms; off Halfway Rock in 30 fathoms; Orr's Island; Casco Bay; off Seguin in 25 fathoms.

*Hippoglossoides platessoides*—Southeastward of Boon Island in 25 fathoms; southward of Cape Porpoise in 30 fathoms; off Halfway Rock in 30 fathoms; off Seguin in 25 fathoms; southward of Monhegan in 60 fathoms.

*Pseudopleuronectes americanus*—Near Halfway Rock in 11 fathoms; Casco Bay.

*Limanda ferruginea*—Off Halfway Rock in 30 fathoms.

*Glyptocephalus cynoglossus*—Southeastward of Cape Porpoise in 20 fathoms; off Seguin in 25 fathoms; southward of Monhegan in 60 fathoms.

*Lophius piscatorius*—Off Halfway Rock in 30 fathoms; southward of Monhegan in 60 fathoms.

#### 1914. JOHNSON, ROBERT S.

The Distribution of Fish and Fish Eggs During the Fiscal Year 1913.

Department of Commerce. Appendix I to Report [U. S.] Commissioner of Fisheries for 1913 (1914).

U. S. Bureau Fisheries, Document No. 749.

List of species:

<i>Salvelinus fontinalis</i>	as Brook trout
<i>Salmo sebago</i>	as Landlocked salmon
<i>Salmo salar</i>	as Atlantic salmon
<i>Osmerus mordax</i>	as Smelt
<i>Ameiurus nebulosus</i>	as Catfish
<i>Oncorhynchus kisutch</i> *	as Silver salmon

\*Introduced.

Salvelinus namaycush	as Lake trout
Micropterus dolomieu	as Smallmouth black bass
Morone americana	as White perch
Gadus callarias	as Cod
Melanogrammus aeglefinus	as Haddock
Pseudopleuronectes	
americanus	as Flatfish

1914. KENDALL, WILLIAM CONVERSE.

The Fishes of New England. The Salmon Family. Part

I. The Trouts or Charrs. With seven plates.

Monographs on the Natural History of New England.

Memoirs of the Boston Society of Natural History, Vol. 8, No. 1, pp. (1) 103, pls. 1-7.

List of species:

*Salvelinus namaycush*, *Salvelinus oquassa*, *Salvelinus aureolus*, *Salvelinus fontinalis*.

1914. WILSON, J. S. P. H., NEAL, WALTER I., and VILES, BLAINE S.

Report of the Commissioners of Inland Fisheries and Game for the State of Maine for the year 1913 (1914).

Not cited in catalogue.

List of species:

Salvelinus fontinalis	as Square-tailed trout
Salmo sebago	as Landlocked salmon
Salvelinus namaycush	as Togue
Salmo fario*	as Brown trout

\*Introduced.

## ERRATA.

Page 4. In the foreign list of introduced fishes for *lernensis* read *levenensis*.

Page 11. For *Isurus punctatus* read *Isurus tigris* (Atwood).

Page 28. For *Breevoortia* [?] read *Brevoortia*.

Page 44. In footnote for *gladunculus* read *gladiunculus*.

Page 45. For *Mugil Cephalus* read *Mugil cephalus*.

Page 60. In "Range" of *Cyclopterus lumpus* read South to Chesapeake Bay.

Page 67. For *æglifinus* read *æglefinus*.

Page 77. Add *Lepomis auritus* to Union River basin.

Page 84. In Fiddlers Reach for Daubling point read Doubling Point.

Page 105. "Identification" *Melanogrammus æglifinus* read *æglefinus*.

Page 106. For *Alopias vulpes* read *Vulpecula marina*.

Page 110. In list of species, first column, for *æglifinus* read *æglefinus*.

Pages 127, 128 and 133, in first column, for *æglifinus* read *æglefinus*.







# PUBLICATIONS OF THE PORTLAND SOCIETY OF NATURAL HISTORY.

## JOURNAL.

**Vol. I, No. 1** (all ever issued). Morse. Pulmonifera of Maine.  
63 pp., 10 pls., numerous text cuts. Few copies only. \$1.50

## PROCEEDINGS.

**Vol I, complete.** 230 pp., 2 pls., 1 map, numerous cuts and index. \$4.00

**Vol. I, Part 1.** 96 + xiv pp., 1 pl., 1 map. Sold only with complete sets.

**Vol. I, Part 2.** 125 + x pp., 1 pl., numerous cuts and index to volume. \$1.00

Cooke, M. C. Decades of Maine Fungi. 7 pp., numerous cuts (extract Proc., 1: ii). Few copies. \$ .25

Billings, E. Fossils from Square Lake, Maine. 22 pp., folding plate (extract Proc., 1: ii). Few copies. \$ .50

Wood, Wm. *Clio borealis* on the Coast of Maine. 3 pp., cut (extract Proc., 1: ii). Few copies. \$ .20

**Vol. II, complete.** 282 pp., 5 pls., one cut, in text. \$3.00

**Vol. II, in Parts.**

Part 1. Brown, N. C. Rare Birds in the Vicinity of Portland. Only with complete sets.

Brown, N. C. Catalogue of Birds of Portland, with Supplement. 40 pp. Few copies only. \$ .75

Part 2. Fernald, M. L. Catalogue of Maine Plants. 32 pp. \$ .50

Part 3. Fernald, M. L. Supplement to Catalogue of Maine Plants. 24 pp. \$ .25

Part 4. Norton, A. H. Sharp-tailed Finches of Maine, and Norton, A. H. Ornithological Notes. 8 pp. \$ .15

Morton, F. S. Foraminifera of Marine Clays of Maine 18 pp., 1 pl. \$ .25

Fernald, M. L. Second Supplement to Maine Plants. 15 pp. \$ .15

Part 5. Norton, A. H. Birds Bowdoin Labrador Expedition. 20 pp., 1 pl. \$ .25

Kingsley, J. S. Catalogue Marine Invertebrata of Casco Bay, Maine. 25 pp. \$ .25

Manning, P. C. Glacial Pot-Holes in Maine. 15 pp., 2 pl. \$ .25

Part 6. Howe, R. H., jr. New Race of *Microtus pennsylvanicus*. 2 pp., 1 pl. \$ .10

Part 7. Kingsley, J. S. Additions to Recorded Fauna of Casco Bay. 3 pp. \$ .05

Part 8. Kendall, W. C. Fishes of Labrador. 37 pp. \$ .40

Norton, A. H. Land and Fresh Water Crustaceans of Maine, 11 pp., 1 cut. \$ .20

Part 9. Collins, F. S. Marine Algae of Casco Bay. 25 pp. \$ .25

**Vol. III, Part 1.** Kendall, W. C. Fishes of Maine. \$1.50

# MISCELLANEOUS PAPERS.

Portland Catalogue of Maine Plants, 1868. 12 pp.	\$ .10
Wood, Wm. Vegetable Structure and the Importance of Certain Tissues in the Reparation of Wounds in Trees and Shrubs (May 2, 1881).	\$ .10
Hill, Thomas. Phyllotaxis.	\$ .10
Boyd, Chas. H. Walrus Remains at Addison, Maine. Stone, G. H. Glacial Erosion.	\$ .15
Lee, L. A. Account of the Work of the United States Fish Com- mission for the year 1881.	\$ .20
Stone, G. H. Columbite in Maine and Reports of Officers of the Society.	\$ .10
Report of the President, Dr. Wm. Wood, May 20, 1889, with Memoir on Rev. J. W. Chickering, former President.	\$ .10

















SMITHSONIAN INSTITUTION LIBRARIES



3 9088 00317088 3

nhfish QL628.M2K33

An annotated catalogue of the fishes of